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**REPORT**  
**OF THE**  
**INDIAN RAILWAY ENQUIRY**  
**COMMITTEE**  
**1947**

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**THE INDIAN RAILWAY ENQUIRY COMMITTEE, 1947**  
**(as constituted in 1948)**

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**CHAIRMAN**

Pandit Hirday Nath Kunzru

**MEMBERS**

Sir Mohd. Yamin Khan

Mr. S. Guruswami

Sir George E. Cuffe

Mr. J. N. Nanda

Mr. K. R. Rama Iyer

**SECRETARY**

Mr. M. N. Chakravarti

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Col. N. D. Ballantine.

**SECRETARY**

Mr. M. N. Chakravarti

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### **TERMS OF REFERENCE**

- (1) Suggesting ways and means of securing improvement in net earnings by—
  - (a) economies in all branches of railway administration, and
  - (b) any other means.
- (2) Ascertaining the extent of staff surplus to requirements and suggesting practical methods of absorbing them in railway service.



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To

**THE HONOURABLE Shri N. GOPALASWAMI AYYANGAR,**  
Minister for Transport and Railways,  
Government of India, New Delhi.

The Chairman and Members of the Indian Railway Enquiry Committee, 1947, have the honour to report as follows:—

## CHAPTER 1

### INTRODUCTORY

#### A. General

1. With the close of the second World War, the All India Railway men's Federation pressed for certain concessions relating to higher scales of pay, increased dearness allowance and war bonus equal to three months pay and improvement in the conditions of service generally and suggested that in the event of the Government's failure to accept their demands, these questions should be referred to an arbitrator. Thereupon, the Government of India set up a non-official Central Pay Commission in May 1946, to enquire into and report on the conditions of Central Services with particular reference to the structure of pay scales and standards of remuneration and the machinery for negotiating and settling questions relating to conditions of service, not only for the railway but for all Central Government employees. The Government also appointed an Adjudicator in April 1946, to consider the Federation's demands regarding hours of work, weekly rest, leave reserve and leave rules. The Federation was, however, not satisfied with the steps taken by the Government, and continued preparations for a strike as from the midnight of 27th-28th June 1946.

As the acceptance of the Federation's demands would have involved additional expenditure far beyond the capacity of the railway finances, the Government placed the demands before the Standing Finance Committee for Railways on the 10th June 1948. This Committee, after hearing Mr. S. Guruswami, General Secretary, All India Railwaymen's Federation, passed a long resolution on the 14th June 1946, extracts from which, reproduced below, would explain the circumstances leading to the appointment of the Indian Railway Enquiry Committee.

"Nevertheless we are conscious that apprehensions exist in the minds of railwaymen that there may be large scale retrenchments hereafter. These fears arise from the large increase in railway staff, which seems to the Committee to be out of all proportion to the increase in the quantum of work which the railways in India have been called upon to perform as measured by the usual statistics of train miles, wagon miles, etc. In fact, the various demands of the Federation for a decrease in the hours of work, increase in the periods of rest and change in the conditions of service generally are understood to have been partly inspired by the fear of large scale retrenchment. The Committee consider that the best method to allay these fears and at the same time to enable the public to appreciate the position properly would be to appoint a small high power committee with which non-officials including those interested in labour should be associated. Such a Committee should be charged not merely with the responsibility of ascertaining the extent of staff surplus to requirements but also of suggesting practical methods of absorbing them. The Committee feel, however, that such a Committee can make a reliable forecast only after the Adjudicator's Award on the hours of work, leave rules, etc., has been considered by Government."

"The Committee would next like to place on record their dissatisfaction that during the war there should have been an increase in working expenses out of all proportion to the increase in the quantum of work done by the

**Indian Railways.** In times of war, financial scrutiny is generally lax, but the Committee feel that even after making due allowances, they could expect a better standard of financial control. The Committee strongly urge that a general economy committee, charged with the responsibility of suggesting ways and means of effecting economy in all branches of the Railway Administration, should be set up without delay. Active steps should be taken to reorganise the machinery for financial control both at headquarters of the Government of India and on the Railway. This Committee may, if convenient, also be entrusted with the functions of the high power committee suggested in the preceding paragraph. We attach special importance to this recommendation as on such action depends the possibility of meeting the additional financial burden, if any that may arise by the acceptance of the recommendations of the Pay Commission and the Adjudicator."

An informal meeting was held at New Delhi on 22nd November 1946, which was attended by Col. R. B. Emerson, the then Chief Commissioner of Railways, and some of the members invited by Government to form the proposed Indian Railway Enquiry Committee, which was to combine the functions of the high power committee and the economy committee referred to in the foregoing extracts from the resolution of the Standing Finance Committee. The general plan and field of enquiry and the data that should be collected were decided upon at this meeting. It was felt that the best way of collecting information germane to the enquiry before the Committee assembled would be for Mr. I. S. Puri, Additional Financial Commissioner, Railway Board, and Mr. M. N. Chakravarti, a senior officer of the then North Western Railway and the Secretary-designate to the Committee, to visit the railways and discuss the matter with the General Managers and their officers and then decide on the most convenient and suitable form in which information should be compiled by each railway. The minutes of the meeting are at Appendix I.

**2. Appointment of the Committee.**—The Government of India notified the appointment of the Committee in their Press Communiqué, dated the 26th November 1946, in the following terms:—

"In pursuance of the recommendations contained in the Resolution passed by the Railway Standing Finance Committee on 14th June 1946, the Government of India have decided to appoint a high power Railway Enquiry Committee with the following terms of reference:—

- (1) Suggesting ways and means of securing improvement in net earnings by—
  - (a) economies in all branches of railway administration, and
  - (b) any other means.
- (2) Ascertaining the extent of staff surplus to requirements and suggesting practical methods of absorbing them in railway service.

The Committee will consist of:—

1. Mr. K. C. Neogy, M.L.A. (Central)—*Chairman*.
2. Mr. I. S. Puri, C.I.E., Additional Financial Commissioner, Railways—*Member*.
3. Mr. J. N. Nanda, General Manager, H.E.H. the Nizam's State Railway—*Member*.
4. Khan Mohommed Yamin Khan, Deputy President, Central Legislative Assembly—*Member*.
5. Mr. Humayun Kabir, Vice-President, All India Railwaymen's Federation—*Member*.

There will be two more Members, one of whom will probably be a railway expert from U.S.A. and the other a high ranking Railway Officer on Indian Railways. Their names will be announced later. Mr. M. N. Chakravarti, an officer of the Transportation (Traffic) and Commercial Departments of North Western Railway will act as Secretary.

The Committee, which will be known as "The Indian Railway Enquiry Committee—1947" is expected to assemble early in April 1947, by which time the Government hope to have received and dealt with the Adjudicator's Award in regard to hours of work, weekly rest, leave reserve and leave rules. In the meantime, Mr. Puri will be engaged in collecting data germane to the enquiry in order to facilitate its deliberations when it starts work."

The Government of India further decided, in consultation with the then Political Department, to include three important Indian State Railways, *viz.*, the Nizam's State Railway, the Jodhpur Railway and the Mysore State Railway within the scope of the Committee. However, within a short period of the assembling of the Committee, H.E.H. the Nizam's and Jodhpur Governments decided to withdraw from the enquiry, with the result that the only Indian State Railway left to be investigated by the Committee was the Mysore State Railway. The Committee, however, as explained by them separately in a letter to the Ministry of Railways, have been unable to make any special recommendations regarding the Mysore State Railway without re-visiting it, which would have considerably delayed the submission of the report.

3. *Collection of Data preliminary to the Enquiry.*—Prior to the formal meeting of the Committee and in accordance with the direction in the Government's Press Communique dated the 26th November 1946, Messrs. I. S. Puri and M. N. Chakravarti visited the headquarters of the North Western, Bombay, Baroda and Central India, Great Indian Peninsula, East Indian, Bengal Assam, Bengal Nagpur, Madras and Southern Mahratta and South Indian Railways and some of the workshops, sheds, yards and subordinate offices. They also visited the Headquarters of the Nizam's State and Mysore State Railways. The Chairman designate, Mr. K. C. Neogy, accompanied them in their visits to Dohad, Bombay and Ajmer and also later visited Lahore by himself. A set of questionnaires was issued to all the Indian Government Railways, and the Mysore State Railway, covering all aspects of railway working.

Mr. Puri, having subsequently been appointed Financial Commissioner of Railways, was replaced on the 14th April 1947, by Mr. K. R. Rama Iyer, Financial Adviser and Chief Accounts Officer, Omdh Tirhut Railway, lately on special duty as Member, Terminal Facilities Committee, Calcutta. Col. N. D. Ballantine, who possessed considerable experience of railway working in the U.S.A. and Sir George Cuffe, General Manager, Bombay, Baroda and Central India Railway, were appointed as Members of the Committee in accordance with the Government of India Press Communique of the 26th November referred to above.

4. *Terms of Reference.*—The terms of reference of the Committee, as quoted from the communique are :—

- (1) Suggesting ways and means of securing improvement in net earnings by—
  - (a) economies in all branches of railway administration, and
  - (b) any other means.
- (2) Ascertaining the extent of staff surplus to requirements and suggesting practical methods of absorbing them in railway service.

The first term of reference includes organisational matters, whether concerning the Railway Board or the railways and is to be considered by the Committee from the point of view of economy, efficiency, and adequacy of supervision and control, whether administrative or financial. In fact, it was understood that the scope of the enquiry extended over the entire field of railway working. This term of reference was further amplified by the Honourable Minister (then Member) for Transport and Railways, in his speech introducing the Railway Budget for 1947-48, when he said :—

"It will be seen that the Committee will be covering the whole field of Railway Administration in search for economies and, in addition, will be exploring the possibilities of improving net earnings through schemes which while involving additional outlay will yield net gains."

The Standing Finance Committee for Railways, in their Resolution of the 14th June 1946, drew attention to the large increase in railway staff, out of all proportion to the increase in the quantum of work and charged the Indian Railway Enquiry Committee with the responsibility referred to in the second term of reference. The Standing Finance Committee also stated that the Indian Railway Enquiry Committee could make a reliable estimate (in regard to the surplus staff and its absorption) only after the Adjudicator's Award on the hours of work, weekly rest, leave reserve and leave rules had been considered by the Government. This is obvious when it is considered that the Indian Railway Enquiry Committee, in order to carry out their second term of reference, would have had to estimate the surplus staff by categories in the first instance and then set off against this any existing shortages and the increased requirements by categories as determined by the Government's decision on the Adjudicator's Award.

Unfortunately, the Government decision on the Award, which was expected in April 1947, was not given till June 1948, and the effect of the Award on the staff requirements was not available to the Committee till September 1948. Meanwhile, the following press communique dated the 14th July 1948, was issued by the Government of India:—

#### “NO RETRENCHMENT ON RAILWAYS.

The Railway Board have noticed that interested parties are trying to foment unrest amongst Railway staff by spreading false rumours regarding impending retrenchment on the railways. The Railway Board are not contemplating any such step.

Though three years ago, it was felt that the end of the war might leave the railways with surplus staff in some categories, the increase in traffic, the Adjudicator's Award, and other conditions that have arisen since, have entirely altered the position and the net result is likely to be an appreciable increase in the total number of staff now employed.

Political parties hostile to the present Government are using every propaganda device including complete misrepresentation of facts to disrupt railway services and induce the staff to adopt sullen and go-slow attitude. It is also unfortunate that many railwaymen provide fruitful soil for such propaganda. While Government are aware of the urgent need for economy in all directions and of the need for vigorous efforts to increase output with the existing staff, the rumours that are being spread about retrenchment on the railways have no foundation in fact.”

In the view of the Committee, three conclusions emerge from this communique:—

- (1) the Railway Board are not contemplating any retrenchment of staff;
- (2) they believe that far from being a surplus, there is a shortage of staff;
- (3) they consider that there is likely to be an appreciable increase in staff.

It was clear that these important conclusions profoundly affected the Committee's second term of reference, which related to the surplus staff and its absorption. By the issue of the communique, the Committee felt that the Government had prejudged important issues involved in the terms of reference and it was obvious that any conclusions they arrived at in the course of the enquiry affecting the staff and consequently economy and efficiency, would, to no small extent, be only of academic interest.

The Government's attention was drawn to this and the Railway Board explained that the communique was based mainly on the decision of the Government on proposals contained in the Adjudicator's Award. This Award was issued long after the Indian Railway Enquiry Committee had been appointed and their terms of reference formulated, and the Government of India were committed to an early consideration being given to the

proposals of the Adjudicator and to action being taken on them. The Railway Board further pointed out that a detailed examination of the Award had shown that a considerable increase in staff would be required to meet the Adjudicator's proposals and that the position in this respect had altered since this Committee were appointed. In their opinion, the Adjudicator's Award made any retrenchment out of the question and, in all probability, rendered necessary the expansion of staff.

As the Railway Board had already considered the matter and had reached the conclusion that in all probability an expansion of staff would be necessary, the Committee felt that it would be unprofitable to deal with the question of the surplus staff and its absorption. The Railway Board was accordingly advised of this view. The Committee, therefore, interpreted the second term of reference in a general manner but have not hesitated to indicate the surplus staff in certain branches when considerations of economy and efficiency necessitated their doing so.

**5. Life of the Committee.** Owing to the political changes in the country, briefly alluded to in paragraphs 11 and 18, the Committee's life was divided into two phases, *viz.*, from the 24th April to the 15th October 1947, and from the 15th March to the 6th November 1948. The constitution of the Committee in the second period underwent a change owing to the termination of connection of three members from the Committee. The constitution and activities of the Committee in each phase have been dealt with separately.

*B. First Phase—24th April to 15th October, 1947.*

**6. Constitution of the Committee.** The Committee was constituted as follows:—

*Chairman.*

Mr. K. C. Neogy, then M.L.A. (Central).

*Members.*

Sir Mohd. Yamin Khan, then Deputy President Central Legislative Assembly.

Mr. Humayun Kabir, then President Bengal Assam Railway Employees' Association.

Sir George E. Cuffe, then General Manager, Bombay, Baroda and Central India Railway.

Mr. J. N. Nanda, then General Manager, H.F.H. the Nizam's State Railway.

Mr. K. R. Rama Iyer, Additional Financial Commissioner of Railways.  
Col. N. D. Ballantine, a Railway Consultant from the U.S.A.

*Secretary.*

Mr. M. N. Chakravarti, an officer of the Transportation (Traffic) and Commercial Departments of the then North Western Railway.

The Committee were assisted by Mr. J. Mehra of the Bombay, Baroda and Central India Railway, who acted as the Committee's Mechanical Officer, Mr. G. Ramu Rau of the Railway Board as Statistical Officer, and Mr. V. R. Babu Mudaliar of the Mysore State Railway as Assistant Secretary.

**7. Committee's activities (From 24th April to 28th June 1947).—**The Committee assembled at New Delhi on the 24th April 1947, and after a brief session, they attended the meetings of the Indian Railway Conference Association on the 24th and 25th April 1947, at the invitation of the Association. This gave the Committee the opportunity of meeting the senior officers of the railways who had gathered at the Conference.

The Committee reached Simla on the 3rd May 1947, after a preliminary inspection of the yards and the running sheds at Ghaziabad, Saharanpur and Kalka and making certain preliminary enquiries. At Simla they undertook a study of the material collected for them by Messrs. Puri and Chakravarti, as also other data available from the various official reports and papers. They also examined the reports made by the previous



Committees of enquiry on railway working, together with the statement of the action taken on them by the railway authorities. The Committee also discussed matters with some of the senior officers headquartered at Simla, and among them were the Auditor General, the Electrical Commissioner to the Government of India, the Chairman, Federal Public Service Commission and the Chief Government Inspector of Railways.

8. *Tour of the Committee* (from 29th June to 24th August 1947).—The Committee drew up a detailed tour programme covering all the Indian Government Railways and the Mysore State Railway, beginning from the 29th June 1947 and ending on the middle of October. This provided for a short stay at Delhi between the 30th June and 2nd July to enable them to have a discussion with the Hon'ble Minister (then Member) for Transport and Railways, and also to have exploratory talks with some of the Members and Directors of the Railway Board. The Committee were granted an interview by the Hon'ble Minister on the 1st July when they raised the question of the likely effect of the impending political changes on the Committee's work. In accordance with a memorandum issued by the Home Department, the Government departments were required to give absolute priority to work in connection with the partition of India, and the Committee felt that this might interfere with their work. The Hon'ble Minister thought that in spite of the prospect of far reaching political changes in the country, it would be possible for the Committee to continue their work. It was accordingly decided to undertake the contemplated tour of the railways, but exclude those directly affected by the Partition, *viz.*, the Bengal Assam and North Western Railways. The Honourable Minister was pleased to issue a directive to the railways concerned to render all assistance possible to the Committee in spite of the Home Department memorandum referred to above. The Committee were to meet the Hon'ble Minister again about the middle of August when the question of bringing the railways directly affected by the Partition within the scope of the Committee's work was to be decided.

While at Delhi, the Committee visited the Central Research Station at Shakurbasti (near Delhi) and discussed various subjects with the Chief Controller of Standardization. They also interviewed the Member (Transportation), Directors, Traffic (General), Mechanical Engineering, Civil Engineering, Finance and Railway Stores, and the Director, Railway Clearing Accounts.

The Committee left New Delhi on the evening of the 2nd July, 1947, but unfortunately their programme had to be modified. Their visit to Bombay between the 9th and 13th July had to be postponed owing to labour trouble at Matunga. The Committee went to the south, eight days in advance of the original programme. This considerably inconvenienced the Madras and Southern Mahratta, South Indian and Mysore State Railways and to some extent hampered the work of the Committee. On completion of their tour over these Railways, the Committee's programme provided for a visit to Cuttack, Khargpur, Tatanagar and the coalfields area. Unfortunately, the disturbances at Khargpur from the 23rd July to the end of the month made this impossible and the Committee were forced to avoid Khargpur and proceed to Tatanagar *via* Raipur and Bilaspur. It was then intended that the Committee should visit the Bombay railways between the 6th and 10th August before returning to Delhi for consultation with the Honourable Minister. For various reasons, the Bombay railways did not find these dates suitable. In the meantime, the political atmosphere in the country had undergone a distinct change. In spite of the directive from the Honourable Minister, the Railways were found to be pre-occupied with partition work and were unable to devote the time necessary for the work of the Committee. The Committee, therefore, decided to return to Delhi on the 3rd August for further consultations, instead of by the middle of August as previously planned.

The then Chief Commissioner of Railways, Col. R. B. Emerson, informed the Chairman of the Committee by the end of July that the officers of the Railway Board and the North Western Railway were then doing nothing except work relating to the Partition. In his opinion, this took

up their full time and had priority over everything else and it was, therefore, inadvisable for the Committee to revisit Delhi before the end of August. The Committee could not agree to this suggestion and returned to Delhi and were granted an interview by the Honourable Minister (then Member) for Transport and Railways, on the 4th August. The political in the country, as they affected rail transport, and the serious difficulties encountered by the Committee throughout their tour, were discussed in detail. At the Honourable Minister's suggestion, the Committee decided to visit the Bombay Railways and then to cancel their tours over the Bengal Nagpur, East Indian and Oudh Tirhut Railways. The Committee were also released from their obligation to report on the railways directly affected by the partition, *viz.*, the North Western and Bengal Assam Railways.

The Committee left for Bombay on the 8th August and inspected the workshops of the Bombay Baroda and Central India and Great Indian Peninsula Railways and discussed matters with the senior officers of these two railways at Bombay. They returned to New Delhi on the 24th August.

The details of the tour programme and the persons interviewed at the various places will be found in Appendices II and III.

9. *Interviews with Port Trusts and Local Governments.*—During their tour, the Committee interviewed the Chairmen of the Port Trusts of Bombay and Madras and the Chief Administrative Officer, Cochin Harbour. They were also anxious to obtain the help and co operation of the Local Governments in matters relating to rail transport. They had accordingly addressed a letter to the following Governments requesting them to nominate representatives to meet the Committee and give them the views of the Government—

- (1) Ajmer-Merwara,
- (2) Assam,
- (3) Bengal,
- (4) Bihar,
- (5) Bombay,
- (6) Central Provinces,
- (7) Madras,
- (8) Mysore,
- (9) North West Frontier Province,
- (10) Orissa,
- (11) Punjab,
- (12) Sind, and
- (13) United Provinces.

It was unfortunately impossible for the Committee to visit the headquarters of the Governments except those of (1) Ajmer-Merwara, (2) Bombay, (3) Central Provinces, (4) Madras and (5) Mysore, where the Committee had the benefit of the advice of the representatives of the Government with the exception of those of the Bombay Government. The visit of the Committee to Bombay coincided with the Independence celebrations and it was not possible to fix up an appointment with the Provincial Government. The Government of Orissa were good enough to send a memorandum embodying their views.

10. *Interviews with Chambers of Commerce and other Commercial and Industrial bodies.*—In the informal meeting of the Committee held on 22nd November 1946, it was decided that the Federations of Chambers of Commerce and Industry should be approached to express their views on rail transport and other problems and make their suggestions. A letter was accordingly issued by the Railway Board in which the Federations were told that Mr. I. S. Puri, Additional Financial Commissioner, would visit various places and would be glad to meet the representatives of these bodies for any information that they may need as to the character and scope of the enquiry or any other point.

When the Committee assembled in April 1947, they felt that it was important not only to consult the Federations but also the individual commercial, industrial and other such bodies throughout India. Accordingly, about 120 such bodies were requested to send memoranda containing their views and to supplement them by oral evidence wherever feasible.

Many commercial bodies assisted the Committee by sending their memoranda. On their tours the Committee were also able to interview the representatives of several such bodies.

11. *Activities on return from tour* (from 25th August to 15th October 1947).—After their return to Delhi, the Committee examined the mass of data and evidence obtained by them. Soon after, the Chairman Mr. K. C. Neogy, was called upon to serve as a Minister of the Government of India and the Committee were consequently deprived of his mature judgment and wise guidance. The American railway consultant, Col. N. D. Ballantine, also had to leave India on the 12th September, owing to his ill-health. Meanwhile, the political situation of the country deteriorated rapidly, resulting in large scale disturbances and exchange of populations. This prevented the Committee from progressing with their work satisfactorily and it became evident very soon that many points that emerged from the examination of the material with the Committee could not be finally settled, as most of the railway administrations and the Railway Board were fully occupied with other immediate problems.

The Committee was again granted an interview by the Honourable Minister for Transport and Railways on the 15th September and discussed with him the situation arising out of the depletion in the Membership of the Committee, and the uncertain political situation in the country. They suggested that the Members of the Committee should prepare draft notes to facilitate the preparation of their report and should then disperse temporarily, about the middle of October leaving behind a reduced staff. When conditions became more favourable the Government could re-assemble the Committee to enable them to complete the unfinished portion of their tour and prepare their report. The Honourable Minister accepted this proposal and the Committee dispersed on the 15th October 1947.

The Honourable Minister explained the position in regard to the Committee, to the Constituent Assembly (Legislative) on the 20th November 1947, in the following terms :—

“The Railway Enquiry Committee which has been looking into this (increased economies) question unfortunately has had to be suspended for a period of a few months on account of the disturbances and of the adjustments following from partition, but I hope they will reassemble within a short period and give us the benefit of their proposals in this matter.”

The Secretary to the Committee and a skeleton staff continued to work after the 15th October 1947, and carried out the instructions given by the Committee before their dispersal. The services of the Secretary, Mr. M. N. Chakravarti, were, however, utilised by the Railway Board from December 1947 to January 1948, in assisting Mr. B. B. Varma, General Manager, O.T. Railway, on special duty with the Railway Board, to deal with the question of the regrouping of the East Indian, Oudh Tirhut and Eastern Punjab Railways.

#### *C. Second Phase—15th March to 6th November 1948.*

12. *Constitution of the Committee*.—In his speech introducing the Railway Budget for 1948-49, in the Constituent Assembly (Legislative) the Honourable Minister for Transport and Railways made the following statement about the appointment of another Chairman :—

“With regard to the Railway Enquiry Committee, as I told the House in answer to a question, the Committee will begin to function in the course of a week or two. Mr. Neogy, who with great ability set the lines on which the enquiry is to

proceed, will now be replaced by my Honourable friend Pandit Hirday Nath Kunzru, who, I am sure, will bring to bear on this important work his unique knowledge and experience of public affairs."

The Committee were sorry to lose the services of Mr. Humayun Kabir, who was unable to continue as a Member of the Committee on his joining the Ministry of Education. His place on the Committee was taken by Mr. S. Guruswami, General Secretary, All India Railwaymen's Federation. Col. N. D. Ballantine, who had left India on the 12th September 1947, was not recalled owing to his failing health.

The Committee were accordingly reconstituted as follows:—

*Chairman.*

Pandit Hirday Nath Kunzru, M.C.A

*Members.*

Sir Mohommad Yamin Khan,  
Mr. S. Guruswami,  
Sir George E. Cuffe,  
Mr. J. N. Nanda,  
Mr. K. R. Rama Iyer.

*Secretary.*

Mr. M. N. Chakravarti.

Among the attached officers, Mr. S. K. Datta Ray of the East Indian Railway took the place of Mr. G. Rama Rau, as the Committee's Statistical Officer. Mr. D. N. Saxena was appointed as Personal Secretary to the Chairman up to the 24th August 1948, when his place was taken by Mr. R. C. Bajpai.

13. *Committee's Activities* (from 15th March to 27th March 1948).—The Committee reassembled at New Delhi on the 15th March 1948, and discussed the general plan of work and the tour programme of the Committee over the Oudh Tirhut, East Indian and Assam Railways and parts of the Bengal Nagpur Railway, which could not be visited in the previous year. Before proceeding on tour, they had a preliminary discussion with the Chief Commissioner and Members of the Railway Board, in their individual capacity, with regard to the procedure the Committee might adopt. They also got from them suggestions on matters of importance which might be looked into specially.

The Chairman accompanied by the Secretary visited the South Indian Railway (Golden Rock) workshops at Trichinopoly and the Madras and Southern Mahratta Railway (Perambur) Workshops at Madras, on the 24th and 25th March. He had also had general discussions with the General Managers of both the South Indian and Madras and Southern Mahratta Railways. After the Chairman's return the Committee visited the Delhi Main station and had discussions with the Chief Administrative Officer, Eastern Punjab Railway, on the 27th March 1948.

14. *Tour of the Committee* (from 28th March to 6th May 1948).—The Committee drew up a detailed tour programme extending over the Oudh Tirhut, East Indian and Assam Railways and parts of the Bengal Nagpur Railway which were left over on the previous occasion. The tour was commenced on the 28th March and ended on the morning of the 7th May 1948. During this period, the Committee inspected several workshops, marshalling yards, transshipment points, running sheds etc., and held discussions with the General Managers and other senior railway officers.

Details of the tour programme and the persons interviewed at the various places will be found in Appendices II and III.

15. *Interviews with Port Trust and Local Governments.*—The Committee interviewed the Port Commissioner of Calcutta and the representatives of the United Provinces Government at Lucknow, of the Bihar Government at Patna, of the Orissa Government at Cuttack, of the Assam Government at Shillong and of the West Bengal Government at Calcutta,

**16. Interviews with Chambers of Commerce and other Commercial and Industrial Bodies.**—The Committee also met the representatives of important Chambers and Associations at Kanpur, Patna, Cuttack and Calcutta.

**17. Activities on return from the main tour** (from 7th May to 6th November 1948).—Immediately after their return to Delhi on the morning of the 7th May 1948, the Members of the Committee began an examination of the mass of data and evidence collected by them during their tour. During this period they also interviewed the Controller of Railway Supplies, the representatives of the Ministry of Industry and Supply and the Chief Administrative Officer and other senior officers of the Eastern Punjab Railway.

In order to inspect the larger Ordnance Factories and to hold consultations with the senior officers of the Ordnance Department the Committee again proceeded to Calcutta on a short tour from the 20th to the 26th May 1948. While there, the Members also met the representatives of the Industrial and Business Consultants (the IBCON Limited) and certain recognised Railway Trade Unions.

After their return from Calcutta, the Committee had discussions with the Chief Commissioner, Financial Commissioner and Members of the Railway Board. In addition, they also had discussion with the Director, Mechanical Engineering and Deputy Chief Controllers, Standardisation, Mechanical and Civil.

After a stay of about a month in Delhi, the Committee again proceeded on tour and visited Bombay, Dohad, Bhusaval, Jhansi, Ajmer and Tata-nagar and returned to Delhi on the 18th July. The Members then scrutinised the material collected by them and commenced the drafting of the report. They also visited the Railway Clearing Accounts Office, and the Railway Research station at Shakurbasti (near Delhi) and had further consultations with the Members of the Railway Board.

#### **D. Concluding Remarks**

**18. First Phase.**—Some of the difficulties that the Committee had to face were inherent in the situation. They were appointed before normal conditions had been restored on the railways. The war imposed an immense strain upon the Indian Railway system. Traffic in passengers increased many times. There was no—and indeed there could not be any—comparable increase in rolling stock. On the contrary, the war held up the normal replacement and purchase programme. Increasing demands had, therefore, to be met by continuing the use of deteriorated material. Nor could there be any respite so long as the war continued.

This difficulty was aggravated by the impact of the war, which led to a large increase in the number of men. Most of the new men had been taken on a temporary basis and in some instances after a relaxation of the standards prescribed in pre-war days. Besides this, dilution in railway staff through the influx of a large number of untrained or semi-trained temporary hands, led to a lowering of the standard both in efficiency and discipline. The uncertainty with regard to their continued employment prevented these men from settling down. Contact with the British and American labour who had come with the armed forces revealed to the Indian labour new standards of comfort, emoluments and conditions of work. **Against the background of the political upheavals in the country, this new consciousness created in labour a restiveness and impatience which could not but affect the normal working of the railways.**

These abnormalities were inherent in the situation. They, however, make a proper appraisal of the working of the Indian Railways difficult as all the facts available to the Committee are affected by them. Traffic throughout the war had been on a tremendously high level. Operational costs had hardly been considered in view of the urgencies of the war. The number of employees had grown but of all proportion to the increase in the volume of work. The only consideration during the war had been to get the job done.

Even the end of the war did not ease the burden on the Indian Railways. The later years of the war were years of acute shortage in food. Foodgrains had to be rushed to deficit areas against time. This added to the pressure exerted by demobilisation and movement of surplus war materials. All railway figures—whether of train miles, passenger miles or of ton miles—were, therefore, pitched at an abnormally high level. They were the result of conditions which were uncertain, and which prevented any firm forecast based on them.

On top of all this, the country entered into a period of unprecedented political and communal unrest. The communal troubles affected the country even more than political or industrial unrest. Life in some places became insecure. Operatives often refused to go out as they were afraid that without proper protection, they might be liable to murderous attacks. Soon after this Committee had commenced to work, the Partition of India was decided upon. This made it inevitable that the whole attention of the Government and also of the different railway administrations should be concentrated on the problems connected with the Partition. It thus became very difficult, if not impossible, to receive from the Railway Board and the different railway administrations that attention and assistance which was essential for reaching firm and helpful conclusions by the Committee.

The factors mentioned above were such as could not be controlled. The Committee represented to the Government the inherent difficulties of the situation. A postponement of the enquiry till conditions had returned to a more normal state was considered. The Government, however, felt that the Committee should continue its work. This decision required that in spite of the preoccupation of the Railway Board and the different railways with their own administrative problems arising out of the Partition of India or industrial unrest, they should give to the Committee that co-operation and assistance which the Committee needed in order to formulate their conclusions.

We are glad to record that we met with unfailing courtesy and consideration from the Honourable Minister for Transport and Railways. He issued a directive that the railways should help the Committee in their work to the fullest possible extent. We have received the co-operation and assistance from several Railways. Thus, when the tour programme of the Committee had to be altered early in July 1947, and the Committee visited the Madras and Southern Maharatta and South Indian and Mysore State Railways, at very short notice, these railway administrations gave the Committee all possible information and assistance that they required. The Bengal Nagpur Railway and the East Indian Railway also made every effort to meet the Committee's requirements. There were, however, some other railways of which the same cannot be said. The inspection of a railway line by the Government Inspector is a routine matter which has not at any time been regarded as interfering with the normal activities of General Managers. Nevertheless, one railway administration made this normal inspection a pretext for suggesting that they would not be able to give the assistance or information which the Committee required for their work. Another railway administration in their reply to a detailed questionnaire made the observation that conditions differed on different railways and that comment on the questionnaire was, therefore, unnecessary.

**19. Second Phase.**—Happily, when the Committee reassembled in March 1948, the situation was not as acute as in 1947. When they toured over the East Indian, Bengal Nagpur, Oudh Tirhut and Assam Railways and revisited Bombay, Bhusaval, Jhansi, Ajmer, Dohad and Tatanagar, they did not have to contend with some of the difficulties that hampered their work in the previous year. The Committee would have liked very much to visit again the other railways that were inspected in 1947, so as to be in a position to compare the performance and the conditions on all the Government Railways as they obtained in 1948, but it was not possible to do so without considerably delaying the preparation of the report.

**20. Acknowledgments.**—The Committee wish to record their grateful thanks to all those officials and non-officials that accepted their invitation to meet them. Their acknowledgments are also due to the Members and

other officers of the Railway Board and to the General Managers of the railways, and other Railway Officers for ungrudgingly placing at the disposal of the Committee detailed statistics and other information involving a good deal of extra work for them, and also for the office and residential accommodation provided for the Committee at various places. They would also take this opportunity of thanking the Provincial and the Mysore Governments who have helped the Committee with valuable suggestions. Their acknowledgments are also due to the various Chambers of Commerce and other Commercial and Industrial Bodies and some of the retired senior railway officers who have considerably helped them with oral evidence and written suggestions. Their grateful thanks are further due to the representatives of the various Labour Unions and Associations, who met the Committee and helped them in understanding the point of view of labour.

**21. Arrangement of Matter in the Report.**—The matter in the report has been divided into chapters dealing with the subjects noted against each as under :—

Chapter I.—Introductory.

Chapter II.—General Survey of the Indian Government Railways.

Chapter III.—Civil Engineering.

Chapter IV.—Mechanical Engineering.

Chapter V.—Operation.

Chapter VI.—Commercial Organisation and other Matters.

Chapter VII.—Electrical Organisation and Electrification.

Chapter VIII.—Railway Stores Organisation.

Chapter IX.—Finance.

Chapter X.—Staff.

Chapter XI.—Research.

Chapter XII.—Central Controlling Authority and Railway Organisation.

Chapter XIII.—Regrouping of Railways.

Chapter XIV.—Railway Grainshop Organisation.

Chapter XV.—Miscellaneous Matters.

Chapter XVI.—Summary and Conclusions and Recommendations.  
Acknowledgments.

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## **CHAPTER II**

### **GENERAL SURVEY OF THE INDIAN GOVERNMENT RAILWAYS**

#### **A. General Remarks**

**22.** A comparative study of the financial results of the railways which have now come to be known as the Indian Government Railways, would be useful for a proper appreciation of their trend. A statement of the financial position of the Indian Government Railways, commencing with the year 1924-25, will be found at Appendix IV. The figures in that statement have been taken from the Explanatory Memoranda on the Railway Budget of the Government of India.

A financial survey covering the years 1924-25 to 1935-36 was made by the Wedgwood Committee in 1937. But the figures given by them on page 8 of their report were slightly different from the figures we have given in our statement. The reason for this difference is that the Wedgwood Committee did not include the earnings and working expenses of the worked lines, while we have considered it desirable to include them. Almost all the worked lines are managed by the Government Railways on agreements which provide for the working expenses being calculated at a fixed percentage, or on the basis of the operating ratio of the working railways. Any improvements of changes which apply to the working railway would normally apply with equal force to the worked lines as well, and the financial effect on both the working line and the worked line would be similar in nature. Our figures do not include those relating to the Burma Railways, which went out of the control of the Government of India in the year 1937-38.

The study of the financial results relating to the period subsequent to 1939-40 is, to a large extent, affected by the consequent extraordinary circumstances created by the war and the enormous increase in earnings and expenditure. Violent changes in conditions from year to year make the figures relating to this period not easily comparable with one another. Another factor to be taken into account in this connection is the changes in accounting methods which had to be introduced from time to time, although the financial effect of these changes was minor compared to that of impact of the war on the financial position of the railways. Certain broad conclusions can, however, be drawn from the figures exhibited in the statement.

The Capital-at-Charge which was Rs. 607.69 crores (excluding the Burma Railways) in 1924-25 rose to Rs. 796.85 crores in 1945-46 and Rs. 807.76 crores at the end of 1946-47. Excluding the Capital-at-Charge pertaining to the Pakistan Railways the share of the Indian Government Railways at the commencement of 1948-49 was Rs. 702.44 crores.

Coming now to the revenue accounts of the railways, the period covered by the statement can be divided into five well-defined periods :—

(1) 1924-25 to 1929-30	.	.	a period of surpluses,
(2) 1930-31 to 1935-36	.	.	a period of deficits,
(3) 1936-37 to 1939-40	.	.	a period of gradual recovery,
(4) 1940-41 to 1945-46	.	.	a period of phenomenal increase in earnings,
(5) 1946-47 to 1948-49	.	.	immediate post-war period of uncertainties.

We need not devote much attention to the conditions affecting the finances of the railways from the year 1924-25 to 1935-36, as those years were brought under review by the Wedgwood Committee of 1937. In any case, conclusions which may be derived from the conditions prevailing in that period cannot apply to present conditions to any great extent. We have, therefore, concentrated on the results of the years subsequent to 1935-36. As the year 1938-39 immediately preceded the commencement of the war, the results of that year have been specifically adopted by us throughout this report for effecting a detailed comparison with the conditions prevailing at present. The latest year for which the accounts have



been available in a final form is 1946-47, and our comparative study has had to be with reference to the revenue and expenses relating to 1946-47.

**23 Contribution to General Revenues.**—With the separation of the Railway Budget in 1924, a Convention was adopted according to which the railways were required to pay to the general revenues one per cent. of the Capital-at-Charge on commercial lines (excluding the capital contributed by Companies and Indian States etc.) at the end of the next preceding financial year, but one, *plus*  $1/5$ th of any surplus profits remaining after payment of that fixed return. Any surplus remaining after payment to the general revenues was to be transferred to a Railway reserve fund, provided that if this amount exceeded in any one year three crores of rupees, two-thirds only on the excess over Rs. 3 crores was transferred to the railway reserve, the remaining one-third accruing to the general revenues. The loss on strategic railways was to be borne by the general revenues. From the 1st April 1943, so much of the Convention as provided for the contribution and allocation of surpluses to the general revenues ceased to be in force and until a new Convention was adopted, the allocation of the surplus on commercial lines between the railway reserve and the general revenues was to be decided each year on the consideration of the needs of the railways and general revenues.

### B. Revenue Accounts

**24. Periods 1924-25 to 1929-30 & 1930-31 to 1935-36.**—Prior to 1929-30, the surpluses remaining after meeting all expenses, and interest charges were sufficient to enable the railways to make contributions to the general revenues in full and at the same time transfer substantial amounts to the railway reserve. A total sum of Rs. 29.79 crores was paid to the general revenues and Rs. 18.81 crores to the railway reserve. In 1929-30, however, the railways had to borrow from the Railway Reserve Fund to make the contribution to the general revenues. It was in 1930-31, that the full effect of the economic depression was felt and the gross traffic receipts went down to below Rs. 100 crores, and the railways were not able to meet even the interest charges in full. The deficits continued till 1935-36 and during this period the accumulated reserves had to be drawn upon to enable the railways to meet the deficits. The Railway Reserve Fund was almost wiped out and temporary loans had to be taken from the Depreciation Fund of the Railways to the extent of Rs. 31.50 crores. Further, the railways were unable to make any contribution to the general revenues except during 1930-31 and the unpaid contributions amounted Rs. 25.83 crores. Besides the Depreciation Fund, which should by then have stood at Rs. 41.19 crores, closed with a balance of only Rs. 9.69 crores. Thus by the end of 1935-36, the financial position of the railways was unenviable; there were practically no reserves.

**25. Period 1936-37 to 1939-40.**—The intensity of the economic depression decreased and the receipts of the railways tended to improve during the period 1936-37 to 1939-40. The gross traffic receipts increased from Rs. 92.41 crores in 1935-36 to Rs. 102.73 in 1939-40, the surplus in the latter year after meeting the working expenses and interest charges was small but positive and the railways were able to pay a part of the contribution payable to the general revenues. Nothing was, however, credited to the railway reserves which even then stood at the nominal figure of Rs. 48 lakhs. The Depreciation Reserve Fund was not drawn upon and was able to receive an additional credit of Rs. 1.21 crores in 1936-37. The unpaid contribution to the general revenues which was Rs. 25.83 crores at the end of 1935-36 mounted up by another Rs. 9.88 crores making a total of Rs. 35.71 crores.

**26. Period 1940-41 to 1945-46.**—The year 1940-41 saw an appreciable increase in the railway revenues and this was the first year after 1930-31 that the railways were able, after meeting all their commitments including the normal contribution to the general revenues, to lay by Rs. 6.30 crores as reserve. They were also able to repay Rs. 7.53 crores as the arrears of contribution to the general revenues.

The gross earnings rose steeply from year to year thereafter, and in 1945-46 the gross traffic receipts reached the record figure of Rs. 225.74 crores. These years marked a period of unprecedented prosperity to the railways. The surplus, year after year was substantial. This enabled the railways to pay off not only the normal contributions to the general revenues but all the arrears and a great deal more. The Railway Reserve Fund which stood at the exiguous figure of Rs. 48 lakhs increased to Rs. 38.13 crores. The Depreciation Fund had received back all the temporary loans taken from it to meet deficits and the actual closing balance stood at Rs. 107.45 crores, which was also the nominal closing balance.

The increasing demands on the general revenues to finance the war was substantially assisted by the railways and from April 1943, the surplus was divided between the railway and the general revenues on consideration of their respective needs. The contribution to the general revenues during the three years 1943-44, 1944-45 and 1945-46 amounted to Rs. 37.64, Rs. 32.00 and Rs. 32.00 crores respectively which are much in excess of the contribution payable under the old convention. The total excess during these years was over Rs. 85 crores.

**27. Period 1946-47 to 1948-49.**—With the termination of the war the railway receipts dropped and in 1946-47 the gross traffic receipts came down from Rs. 225.74 crores to Rs. 203.39 crores, or by about 10 per cent. The surplus after meeting the interest charges amounted to Rs. 8.52 crores as against very large surpluses during the preceding 5 or 6 years. Out of this, Rs. 5.40 crores were contributed to the general revenues, Rs. 3.00 crores were allocated to a newly formed Railway Betterment Fund and the balance of 12 lakhs only was credited to the Railway Reserve Fund. The Betterment Fund was instituted in 1946-47 with a view to financing out of revenue, improvements which do not increase the earnings capacity of the railways, such as the provision of amenities for the travelling public, works connected with staff welfare and unremunerative operative improvements. This fund received an initial credit of Rs. 12.00 crores by transfer from the Railway Reserve Fund and Rs. 5.90 crores from the net profits of 1946-47, making a total of Rs. 15.90 crores. The Railway Reserve Fund which received only a paltry sum of Rs. 12 lakhs dwindled to Rs. 23.02 crores. The Depreciation Fund slightly improved and the closing balance stood at Rs. 108.29 crores.

The next year, 1947-48, was a year marked by far-reaching changes in the political situation of the country. The partition of India on the 15th August divided the Indian Government Railways into the railways of the Indian Union and the Pakistan Railways. The route mileage of such railways which covered approximately 33,192 miles before the partition, was reduced to 26,205 miles so far as the Indian Union was concerned. Further, the accounts of the two railways prior to the partition were for different sets of railway rules and regulations. The accounts for the first period had to be separated and adjusted in the pre-partition accounts. For these and other similar difficulties it has been almost impossible to make any useful comparison relating to the figures as are available for this year. We, therefore, content ourselves with stating that the 1947-48 budget (prepared early in 1947 and before the partition) showed the expected gross traffic receipts as Rs. 193.50 crores and the surplus as Rs. 17.50 crores. The actual position of the railways during the first period, *i.e.* upto the 14th August, was unsatisfactory and a sum of Rs. 13.73 crores had to be withdrawn from the Reserve Fund to meet the deficit. In the second part of the year also the position was not much better and Rs. 5.2 crores had to be drawn again from the Reserve Fund leaving a closing balance in the Fund of Rs. 2.90 crores only.

We now come to the consideration of the budget for the year 1948-49. This refers entirely to the railways in the Indian Union. The gross traffic receipts are expected to be Rs. 190.00 crores and the operating expenses alone Rs. 147.15 crores. The anticipated surplus has been put at Rs. 9.84 crores which is to be allocated as under :—

- to general revenues Rs. 4.5 crores
- to the Railway Reserve Fund Rs. 4.5 crores
- to the Betterment Fund Rs. 0.84 crores.

At the end of the year, the Railway Reserve Fund is expected to stand at Rs. 8.5 crores and the Railway Betterment Fund at Rs. 8.2 crores. The Depreciation Reserve Fund which stood at Rs. 108.29 crores at the end of 1946-47 rose to Rs. 112.48 crores just prior to the partition and declined to Rs. 90.48 crores at the end of 1947-48 owing primarily to the transfer of Rs. 20.30 crores, the estimated balance relating to the Pakistan Railways to these railways. The Fund is expected to come down further to Rs. 78.23 crores by the end of 1948-49 owing to heavy withdrawals for renewals and replacements.

### C. Working Expenses

28. The working expenses also have followed more or less the same trend. During the period of depression the operating expenses were substantially curtailed and in 1932-33 they were Rs. 49.37 crores as against Rs. 56.32 crores in 1929-30. It must be stated, however, that the quantum of traffic also diminished. In 1938-39 and 1939-40 the operating expenses increased slightly to Rs. 54.01 and Rs. 54.77 crores respectively. This increase can be explained by the improvement in traffic. From 1940-41 to 1945-46 there was a continuous increase in operating expenses.

The largest individual increase is under cost of staff inclusive of dearness allowance and loss on grainshops. The growth of this expenditure will be seen from the following figures:—

1939-40	.	.	.	.	.	.	Rs. 35.00 crores
1940-41	.	.	.	.	.	.	Rs. 35.50 „
1941-42	.	.	.	.	.	.	Rs. 38.14 „
1942-43	.	.	.	.	.	.	Rs. 45.42 „
1943-44	.	.	.	.	.	.	Rs. 58.60 „
1944-45	.	.	.	.	.	.	Rs. 65.35 „
1945-46	.	.	.	.	.	.	Rs. 75.11 „

In 1946-47, although the gross traffic receipts dwindled, the operating expenses continued to rise, thus resulting in an appreciable decline in the surplus. The figures for the year 1947-48, as we have stated earlier, are vitiated owing to the partition and the year closed with a serious deficit and a sum of Rs. 18.93 crores in all had to be withdrawn from the Reserve Fund.

The budget for 1948-49 has placed the operating expenses of the post-partition railways amounting to 4/5th of the old route mileage at Rs. 147.15 crores, which considering the route mileage and the gross receipts is very high. When the post-war programmes are completed there will be a heavy increase in the Capital-at-charge and, therefore, in interest charges. Further, the implementation of the Adjudicator's Award and the full adoption of the Pay Commission's scales could increase the expenditure substantially.

The net result will, therefore, be by no means satisfactory and the immediate future of the railways can by no means be considered bright.

### D. Statistical Survey

29. We have seen that the growth of operating expenses has been most marked in the recent years, and these expenses have far outstripped the increase in the traffic receipts. There are many reasons for this, some of which are unavoidable in the present circumstances, but as will be seen later in the report, we feel that there is considerable scope for improvement by an increase in efficiency in the various directions. It would, therefore, be useful here to set out some of the major statistical results relating to operation and repairs and maintenance. For the purpose of this broad analysis, the average figures for the Broad Gauge and Metre Gauge railways for a few typical years or comments thereon are given below:—

#### (i) Operating Statistics—Coaching

(a) *Average time-table speed.*—The speed on the Indian Railways was about the best in 1937; it diminished slightly just before the war and since

then there has been a general deterioration on all the railways. This appears to have been checked in the current year.

(b) *Punctuality*.—There has been a very great marked deterioration in punctuality on all the Indian Railways; the trend, however, appears to have been checked in the current year.

(c) *Light and assisting not required engine miles per 100 train miles (Passenger)*.

	1938-39	1944-45	1945-46	1946-47
Broad gauge . . . . .	2.18	3.05	2.75	2.30
Metre gauge . . . . .	1.10	1.97	1.95	1.46

The trend has been unsatisfactory though there has been a slight improvement during 1946-47.

### (ii) *Operating Statistics—Goods*

(a) *Train miles per train engine hour.*

	1938-39	1944-45	1945-46	1946-46
Broad gauge . . . . .	10.9	10.0	10.2	10.3
Metre gauge . . . . .	10.9	10.2	10.2	9.72

Speed has slightly declined on the prewar figures but to a large extent this has been compensated for by an increase in the train load.

(b) *Light and assisting not required engine miles per 100 train miles.*

	1938-39	1944-45	1945-46	1946-47
Broad gauge . . . . .	7.56	9.67	9.29	9.60
Metre gauge . . . . .	3.59	4.82	5.83	5.55

Here too, the results have deteriorated considerably since 1938-39.

(c) *Load of trains, of wagons and net ton miles per engine hour.*

		1938-39	1944-45	1945-46	1946-47
Average net train load in (tons) . . . . .	B.G.	380	460	440	427
Do . . . . .	M.G.	161	185	187	170
Average net wagon load in (tons) . . . . .	B.G.	12.5	14.8	14.5	14.5
Do . . . . .	M.G.	6.43	7.34	6.98	6.77
No. of loaded wagons per train (Main line only) . . . . .	B.G.	34	35	34	33
Do . . . . .	M.G.	29	28	31	29
Percentage of loaded wagons to total No. of wagon on train (Main line) . . . . .	B.G.	69.9	74.2	72.0	70.8
Do . . . . .	M.G.	72.3	66.0	70.3	73.4
Net ton miles per engine hour . . . . .	B.G.	1854	1847	1831	1776
Do . . . . .	M.G.	822	835	800	705

All these statistics point to an all-round improvement during 1944-45 but since then there has been a steady deterioration. The statistics relating to 'net ton miles per engine hour' are usually regarded as an excellent index to goods train efficiency. This figure has shown a very marked deterioration, particularly in 1946-47.

### (iii) *Rolling Stock Statistics—Locomotives*

(a) *Percentage of average number under or awaiting repairs daily to average total number on line.*

	1938-39	1944-45	1945-46	1946-47
Broad gauge . . . . .	18.9	16.1	16.4	18.4
Metre gauge . . . . .	12.8	13.9	15.8	19.8

The improvements effected upto 1944-45 on the B.G. have not been maintained during the next years. On the M.G., there has been a steady deterioration from year to year.

(b) *Engine miles per day per engine.*

	1938-39	1941-42	1944-45	1945-46	1946-47
On line					
Broad gauge . . . . .	79	87	77	77	75
Metre gauge . . . . .	76	81	69	69	70

The statistics show deterioration.

In use	1938-39	1941-42	1944-45	1945-46	1946-47
Broad gauge .	115	118	106	106	107
Metro gauge .	110	109	100	102	107

During 1946-47, there has been a slight improvement, both on the B.G. and on the M.G., but this is counteracted to a large extent by the increased percentage of locomotives under or awaiting repairs at (a) above.

(c) *Coal consumption—lbs. of coal consumed per 1000 gross ton miles.*

	1938-39		1944-45		1945-46		1946-47	
	Pass.	Goods	Pass.	Goods	Pass.	Goods	Pass.	Goods
Broad gauge . .	180	142	168	159	173	163	190	168
Metro gauge . .	200	149	182	170	186	175	228	197

The figures indicate a steady rise in the consumption of coal.

(iv) *Rolling Stock Statistics—Carriages*

(a) *Percentage of average number under or awaiting repairs daily to average total number on line.*

	1938-39		1944-45		1945-46		1946-47	
Broad gauge . . .	10.4		9.3		9.6		10.9	
Metro gauge . . .	6.9		7.6		9.2		10.1	

The improvement effected upto 1944-45 on the broad gauge has not been maintained during the following years. On the metre gauge, there has been a steady deterioration from year to year.

(b) *Vehicle miles per vehicle day.—*

	1938-39		1944-45		1945-46		1946-47	
Broad gauge . . .	137		134		148		157	
Metro gauge . . .	110		98		108		113	

There has been all-round improvement, both on the B.G. and M.G.

(v) *Rolling Stock Statistics—Wagons*

(a) *Percentage of average number of unserviceable wagons to average total number on line daily.*

	1938-39		1944-45		1945-46		1946-47	
Broad gauge . . .	5.74		4.40		5.26		6.99	
Metro gauge . . .	2.94		3.44		4.36		7.57	

The statistics under this head, after an improvement in 1944-45 on the broad gauge, have shown deterioration. The position on the metre gauge appears to be rather disquieting.

(b) *Wagon miles per wagon day.*

	1938-39		1944-45		1945-46		1946-47	
Broad gauge . . .	40.2		40.0		41.6		37.3	
Metro gauge . . .	30.9		30.3		31.5		26.2	

The statistics show deterioration. The output per wagon day is very low.

## CHAPTER III

### CIVIL ENGINEERING

#### A. Introductory Remarks

30. The Engineering Department of the Railways is responsible for the efficient maintenance and renewal of all permanent way and structural works. A substantial and well maintained track is essential for the safety, if speed and convenience in service are desired, it is most important that not only should the track be constructed to an adequate standard but that it should also be efficiently maintained. For this purpose it becomes necessary to replace and renew the weak and worn out sections of the permanent way on a programme basis, and to provide for efficiency in organisation, well trained supervision and adequate labour to ensure satisfactory maintenance. While, therefore, railway administrations should not be denied funds for the necessary renewals and efficient maintenance, in view of the high cost of labour and materials, the compelling considerations of economy demand a close scrutiny of the existing or proposed standards of track and the strength of the labour engaged on maintenance. In the economy of track maintenance, the method and manner of maintenance are of great importance in determining the number of men required to deal with this work.

In our tours over the different railways, we took every opportunity of examining the permanent way from the observation car of our train and we also examined the permanent way in the yards. We discussed the track standards, track maintenance, and other engineering problems with the Chief Engineers and a few of the other senior officers of the Engineering Department. We found the officers, on the whole, keen and enthusiastic about their duties, but we also gained the impression that in many cases, their approach to engineering problems was highly conservative and that they were content to move in the groove made by their predecessors. The justification of our conclusions will be apparent from what follows, wherein we have discussed important problems bearing on the economic and efficient working of the engineering departments which came under our observation and on which we obtained the views of the engineering officers.

#### B. Track

31. *Standard of Track.* The standard of track on the whole is satisfactory except in the matter of sleepers and rails which have been in short supply. With the implementation of the relaying programme for the next five years, it is expected that the existing weak links will be eliminated and the standard will improve sufficiently to meet the future demands for increase in traffic and acceleration in train speeds. The present postwar speed of the faster trains are below the prewar speeds, and after rehabilitation, the track should be well able to stand to future demands. For this purpose, it is, however, important that every possible action should be taken to secure the necessary permanent way materials for the implementation of the urgent relaying programmes, as unless the necessary permanent way renewals are completed, the capacity of Indian Railways for meeting future traffic demands will be impaired.

32. *Renewal Programmes.*-- Renewal programmes should not ignore financial implications. Track standards should not be raised without adequate justification merely to comply with new standards. As is the practice of Railways generally, full use should be made of the second hand released materials.

33. *Rails.*-- 90 lb. flat-footed and 60 lb. flat-footed steel rails have been prescribed as standards for the broad gauge and the metre gauge main lines. These rail sections may have been justified at the time these were introduced. The price of steel was not high. The policy, then, was to have increased axle loads, long trains and high speeds. Conditions have

altered now. Not only has the price of steel increased by 30 per cent. above the prewar, but steel is in short supply in India and abroad. The Railway Board have abandoned the policy of increased axle loads for locomotives in favour of lighter axle loads and in pursuance of this policy, have designed and obtained modern locomotives with 18 ton axle-load instead of those with 22½ ton axle load which they had aimed at and obtained in the past. The maximum speed on the metre gauge railways is and has always been 45 miles per hour. Further, we consider that the present standard sections of rails do not use steel to the best advantage. These are weighty reasons why the policy governing the standard sections of rails for use on the Indian Railways should be reviewed and investigations made to find out if lighter and modified sections would not serve the needs of the Indian Railways with consequent economy in cost and material. The reasons for preferring heavier sections of rails than strictly required on technical considerations of axle loads, maximum speeds etc., have been and are, smooth running and economy in maintenance. The first objective can best be obtained by a track laid with welded rails and in regard to the second objective, we have found no material evidence in support of economies in maintenance. We are glad to note that the Railway Board have already programmed an investigation such as we have in view and we recommend that this should be pushed forward without undue delay. We think that this investigation is likely to lead to the adoption of lighter and modified sections as standards for the broad gauge and the metre gauge lines.

The relative merits of a revised 100 or 90 lb. bull-headed section rail with proportionately more metal in the head and its use in special areas with very dense traffic and on ghat sections with sharp curves might be investigated and considered.

34. *Sleepers.*—The types of sleepers used are hard and soft wood, steel trough and cast iron plate or pot. Wooden sleepers are scarce. Steel trough sleepers and CST 9 cast iron sleepers are now being used extensively. These have proved satisfactory and are replacing the other types. In view of the rising costs, we suggest further investigations being made to lighten these sleepers with a view to economy. This particularly applies to the steel trough sleepers.

35. *Density of sleepers.*—The design and spacing of sleepers, while giving adequate strength to the track, should tend to economy in track maintenance. The normal standard on the Indian Railways was N plus 3 sleepers per rail length, equivalent to about 2,200 sleepers per mile, but this has been gradually superseded by increased densities at the present time as shown below :—

B. B. & C. I. Rly.	..	..	N plus 3 on main line increased to N plus 5 on heavy suburban sections.
B. N. Rly.	..	..	N plus 3 on main line, increased to N plus 4 on doubtful soil.
E. I. Rly.	..	..	N plus 3 on main line, increased to about N plus 6, equivalent to 2500 sleepers per mile.
G. I. & P. Rly.	..	..	N plus 6 on main line increased to N plus 8 on weak formation and heavy traffic sections.
M. & S. M. Rly.	..	..	N plus 2 to N plus 4 on main line increased to N plus 5 on curves.
S. I. Rly.	..	..	N plus 3 increased to N plus 4 on heavy traffic sections.

(N is the length of the rail in yards)

This indicates wide variations in the standards now being adopted by the different railways and the marked drift towards increased sleeper densities. It is essential that railways should fully appreciate the financial implications of this policy. The adoption of N plus 6 standard in place of N plus 3 increases the number of sleepers by about 450, adding to the capital cost by about Rs. 10,000 per mile. It is obvious that in the interest of economy, any increase over the normal standard of N plus 3 sleepers per rail should be made with the greatest caution. Given good maintenance and good formation, N plus 3 standard has proved satisfactory in the past and there is no reason why it should not prove equally satisfactory in the future under conditions of track loading which are

envisaged under the present policy of reduced locomotive axle load. We doubt if adequate technical justification exists for an increase in this standard.\* The Chief Engineers, in support of their policies for closer spacing than the N plus 3 standard, have stated that the increased density adds to the strength of the track and prevents deterioration of the running qualities of the road. Such an argument can only be accepted with certain reservations; as there must be an economic optimum in regard to the number of sleepers per mile to suit traffic conditions. We have found a good deal of confused thinking on this matter which has probably led to extravagant action in regard to the sleeper densities on the different railways. Firstly, we have to admit that we have no scientific data available at present to determine the economic density of sleepers per mile to suit particular traffic conditions. Although we lack this data, we know that the lateral strength varies with the type of sleepers. For instance, a track laid with wooden sleepers to N plus 3 standard is not as strong with respect to lateral strength as a track laid with steel trough sleepers to N plus 2 standard. Notwithstanding this variation, in carrying out sleeper renewal programmes even on good formations, no account is taken of the type of sleepers with the result that if wooden sleepers are being replaced by steel, the number per mile very often remains the same. This, we consider, results in needless addition to the sleeper strength of the track. Similarly, in renewing a 36 ft. rail track on wooden sleepers by a 42 ft. rail track or steel trough sleepers or CST 9 cast iron sleepers, the N plus 3 sleeper standard with a 36 ft. rail equivalent to 2,200 sleepers per mile, is needlessly raised to N plus 4 standard with a 42 ft. rail equivalent to 2,263 sleepers per mile, presumably to prevent the reduction of sleepers per mile to 2,137 below the existing standard of 2,200 sleepers.

In deciding the number of sleepers per mile, we must take into account the type of sleepers to be used. We do not know how far the lateral strength of the track is affected by vertical stresses in the track. On weak formations, additional sleeper strength may have to be provided to reduce pressure, but the more satisfactory method would be to stabilize and strengthen such formations.

Railways should guard against adopting the expensive solution of bad maintenance by an increase in the number of sleepers per mile. In view of the fact that two major railways have abandoned the standard of N plus 3 in favour of N plus 6 and more and the tendency on other railways is to increase sleeper densities, it is important that the technical investigation into the subject of sleeper densities which was started in the year 1938 and had to be deferred during the war, should be completed early with particular reference to the types of sleepers, sections of ballast, formation, axle load, speed and traffic density. It may be of interest to quote the tentative conclusion in this respect of the Chief Controller of Standardisation from his letter dated the 25th September 1940, to the General Secretary, Indian Railway Conference Association: "Further research is necessary and will be carried out as soon as staff at present engaged on locomotive oscillating trials can be spared. It appears very probable that research will show that increased sleeper density can be dispensed with except possibly on banks composed of Black Cotton Soil. The financial implications are large and amply justify further research."

We understand that this research is being taken in hand and is likely to be completed within a year. Although the results of the research may not provide a set formula to meet all possible variants in respect of track, formation and traffic, we have no doubt that sufficient data will emerge to enable impressive economies being made in reducing the number of sleepers per mile.

**36. System of maintenance, strength and organisation of gangs.**—The permanent way is maintained by small gangs numbering 7 or more men in charge of a mate. The gang length is either 3 or 4 miles. During monsoon months, gangmen are generally engaged in picking up 'slacks' and in the remaining 7 or 8 months of the working season, they do 'overhauling', 'through packing', 'screening' of ballast, lubrication of



fishplates and bolts, etc. On the seven major Government Railways, there were 85,243 permanent gangmen, Keymen and Mates, engaged on the maintenance of track in 1946-47. The average number of permanent gangmen, excluding mates and keymen, expressed in terms of the number of men per equated track mile, details of which will be found in Appendix V, is summarised below:—

*Table 1. Number of permanent gangmen.*

Railways	1938-39*		1946-47†	
	No. of permanent gangmen	Av.No. per equated track mile	No. of permanent gangmen.	Av. No per equated track mile
B.N.	9,058	2.54	11,092	2.84
B.B. & C.I.	9,342	2.77	9,780	2.93
E.I.	17,783	2.73	16,589	2.37
G.I.P.	12,558	2.59	13,091	2.66
M. & S.M.	7,142	2.21	7,486	2.33
O.T.	5,483	1.62	5,899	1.71
S.I.	5,253	1.98	5,518	2.38
Total	66,619		69,455	

There is an increase of 4 per cent. in the number of gangmen but what is significant is a gradual tendency on some railways towards increase of gangmen per equated track mile. This requires to be carefully watched. We are aware that the administrations are already exercising judicious control on any increases in the permanent strength of the maintenance staff, but we have grave doubts if the employment of temporary labour is being controlled economically and efficiently. The number of temporary labour employed has increased enormously and in 1946-47, the average number of temporary gang labour, including Keymen and Mates, engaged throughout the year on permanent way maintenance and special works was 26,689 or 31 per cent. of the total permanent strength, inclusive of Keymen and Mates. This temporary gang labour is employed not only on special works of relaying and renewals but also on works of arrears of maintenance. It is the latter category which requires careful check. The risk lies in the administrations not increasing the permanent strength of gangs but continuing to employ large numbers of temporary men on the work of ordinary maintenance of track in one form or other and from one year to another. These, in effect, should be counted as additions to the strength of sanctioned permanent gangs but are not borne on books as such. We have no information in regard to the percentage of temporary labour engaged on such works of maintenance of track but the following statement gives the average strength of the temporary gang labour employed on the different railways in 1946-47:—

*Table 2. Number of permanent gang labour, including Keymen & Mates.*

Railways	Permanent gang labour employed in 1946-47 including Keymen and Mates	Temporary gang labour employed in 1946-47 including Keymen and Mates	Percentage to permanent gang labour
B. N.	13,659	1,160	8%
B. B & C. I.	12,304	652	5%
E. I.	19,086	5,514	29%
G. I. P.	15,806	14,053	89%
M. & S. M.	9,531	3,654	38%
O. T.	7,954	407	5%
S. I.	6,903	1,249	18%
Total	85,243	26,689	31%

\*As on 31st March 1939.

† Average for the year.

It will be seen that with the exception of the B. B. & C. I. and O. T. Railways, all the other railways employ a large temporary labour force. The percentage of temporary labour to permanent gang labour is particularly high on the G.I.P., being 89 per cent. and is 38 per cent. on the M. & S. M., 29 per cent. on the E. I. and 18 per cent. on the S. I. Railway.

As already stated, we do not know the number of men out of the total temporary gang strength that is engaged on the arrears of maintenance, and we are, therefore, unable to say whether this labour is being economically employed. In view of the high percentage of temporary labour to permanent labour employed on the G.I.P., M. & S.M., E.I. and S. I. Railways, there appears to be a *prima facie* case for enquiring more closely into the employment of temporary gang labour on these railways and particularly of temporary labour employed on arrears of maintenance. In exercising an effective check over gang labour, whether permanent or temporary, we are painfully aware of the serious defects of the present organisation in regard to the maintenance of the permanent way on the Indian Railways. This we revert to later.

In determining the strength of gangs, the railways follow certain standards which were laid down by the Railway Board in their letter No. 985-W., dated 17th March 1931, fixing the maximum number of gangmen per mile for ordinary maintenance. Subsequently, the railways carried out job analysis to determine the minimum number of men required to maintain track under normal conditions, and gangs were suitably strengthened taking into consideration such factors as bad formation, type of permanent way, special traffic and climatic conditions. This resulted in substantial economies at the time but these have been dissipated by the slight increase in the permanent gang strength which has taken place since 1938-39 and the employment of additional temporary labour for maintenance. It has been suggested by some administrations that economies were carried too far prior to 1938-39 and also that the job analysis fixed a standard impractical of attainment under average working conditions which usually lack close observation and supervision. On the other hand, other administrations frankly admit that they have excessive number of men engaged on maintenance. It should be remembered that standards of performance have deteriorated in all branches of the railway working as a result of war and post-war conditions and gang labour has suffered in that respect although their efficiency has not deteriorated to the same extent as of the other categories of railway labour. Further, during the period of war, all administrations tended to increase staff not only to meet the current needs but also the anticipated requirements. All these factors have contributed to an increase in the surplus staff on railways.

We are, however, painfully aware that it is exceedingly difficult to exercise check on the labour, both permanent and temporary, employed on the maintenance of the track, owing to the variations in the methods and systems of maintenance. We have found no uniformity or accepted basis for any one operation of track maintenance. The opening of a road, the over-hauling of track, the packing of sleepers, the screening of ballast, the lubrication of fishplates and bolts are done at different intervals and not always in the same manner.

The answer to the question whether through packing should be done once a year or more often, whether full screening of ballast should be done or only partial screening, whether fittings should be lubricated once a year or less often, will determine the basic strength of gangs. It will be necessary to fix targets in respect of each operation of the permanent way on a rational basis to suit varying conditions of formation and traffic density. The existing wide variations in the fundamentals of track maintenance cannot lead either to economy or efficiency. It is, therefore, essential that close investigation should be made into the whole subject of track maintenance. To that end, we recommend that an officer of the Indian Railways, specially qualified and interested in permanent way maintenance, should be placed on special duty. He should make a close study of the methods pursued by different railways. He should analyse

the present methods and those which have proved in practice to show the maximum economy and efficiency should be co-ordinated to reach final conclusions. No technical research is envisaged in the proposal at this juncture. What is needed is, the co-ordination of the most efficient of the existing methods and their application to the maintenance of the track on Indian Railways as soon as possible. Any technical question arising out of the enquiry can be dealt with later by the research department. When conclusions have been reached, it will be necessary for each railway to make a detailed examination of each section of the line on the basis of unit work done to determine gang strengths to work to targets fixed for each operation.

The Investigating Officer should ascertain the best method of utilising gang labour during monsoon and propose suitable checks to ensure that profitable and efficient work is done during these months. We believe that an investigation on these lines which provides for the experience of different railways being pooled and co-ordinated and the best practice for each operation of maintenance being adopted, will not only result in substantial economy, but will also lead to better standards of maintenance.

**37. Mechanical Maintenance.**—In view of the rising cost of labour, the question of the maintenance of track with mechanical appliances assumes considerable importance. Other countries have profitably adopted mechanical methods for track maintenance and we consider that there is scope for economy in the adoption of such methods in India. We understand that mechanical appliances are being obtained for purposes of trial on Indian Railways and we would suggest that these should be obtained in sufficient quantity for trial on different railways to ascertain their suitability in areas of heavy traffic density, such as station yards and on lines with heavy suburban traffic. Time would be required to develop the proper technique and the right type of appliances to suit Indian conditions and this is an added reason why the experiments should be pushed forward as early as possible.

**38. Mobile Gangs.** Reports received from the railways on which this system was tried, indicate that appreciable savings resulted by the adoption of this system but it had to be abandoned as difficulties were met in operating the system particularly in taking workmen to and from the work spot. This might be obviated by the use of Motor Vans modified to run on rails. The system of using mobile gangs has great possibilities and should not be abandoned. It is particularly suited to big yards, suburban lines and less important branch line maintenance.

**39. Gang Sections.** The Bengal Assam, East Indian and North Western Railways have already adopted 4 miles as the average section for a gang. We recommend its gradual extension to other railways. On the six railways which work on gang sections of 3 miles length, there were 16,241 gang mates and keymen in 1945-46 and 14,895 in 1946-47. The adoption of the extended section will not only result in the reduction of gang mates and keymen by about 25 per cent., but would also provide a more suitable gang strength to minimise disorganisation of daily work due to casual absenteeism. It will not be possible to effect full economies in this respect immediately as the present location of gang quarters in some cases may not suit the proposed section of 4 miles. This is why we recommend the gradual adoption of our proposal on other railways, but we desire that the extended gang length should be particularly kept in view in the location of new gang quarters, for which each railway has a heavy programme of construction. We wish to make it clear that the proposal does not involve any reduction in the number of gangmen per mile. For instance, at present, where two men per mile are provided for track maintenance, a gang consists of 6 men and a keyman and a mate for a 3 mile gang section. Under our proposal, the gang will consist of 8 men and a keyman and a mate for an extended gang section of 4 miles and, therefore, the number of gangmen per mile will not be altered.

**40. Ballast Section.**—Ballast has always been an expensive item in the cost of maintenance of the Permanent Way. The cost of ballast has

increased by 300 to 400 per cent. over the pre-war costs, and even at this cost, all railways are experiencing difficulty in the procurement of their requirements. The standard ballast sections differ substantially on different railways. It is not suggested that there should be uniformity in ballast sections on all the railways, but there is no reason why a standard section should not be laid down for a standard track on various soils, these sections to be modified for special conditions of traffic, climate etc. The depth of ballast under sleepers varies as follows:—

Broad Gauge		Metric Gauge	
B.N.	.. 10"	Assam	.. 6"
E.I.	.. 10"	B.B. & C.I.	.. 6"
E.P.	.. 8"	M. & S.M.	.. 8"
G.I.P.	.. 12"	O.T.	.. 6"
M. & S.M.	.. 9"	S.I.	.. 8"
S.I.	.. 9"		

The difference in the cost of ballasting a new line per mile of track with 8" and 12" depth of ballast would be of the order of about Rs. 5,000 per mile. It is obvious that the expenditure of this order should not be incurred without being certain that this is necessary in the interest of good and economic maintenance of track.

In view, however, of the fact that ballast is deficient on most railways, it is obvious that ideas of a proper ballast section on railways err on the side of extravagance. It is possible that a critical examination of the existing ballast sections under track on good formations for varying traffic conditions on different railways might lead to conclusions in regard to the economic ballast section. We suggest that the Special Officer, recommended by us to investigate the economic method of track maintenance, should also be asked to investigate the question of economic ballast section, as these problems are intimately connected. A systematic research will still be necessary to arrive at the standard ballast section for varying formations and to suit special conditions of traffic, climate, etc. We recommend that such research should be undertaken early.

In view of the rise in the wages of the manual workers and the difficulties in the recruitment and retention of such labour, it is suggested that railways should encourage reputable contractors to go in for the use of mechanical crushers for supply of ballast to railways. Railways should also investigate the possibility of installing and working mechanical crushers departmentally provided such schemes can be financially justified. This would not only help the railways to obtain their ballast requirements but would also assist in keeping down contractors' rates for ballast collection.

In view of the shortage of ballast, the use of clean, sharp sand with pot sleepers, should be considered, stone ballast being used for boxing and blinding the sand. This is recommended only in localities where stone ballast is not available and suitable sand can be obtained economically.

**41. Welding of Rails.** We have made hardly any progress in the welding of rails on our railway tracks. Experiments so far carried out on a small scale have demonstrated the practicability of the use of welded rails to a length of 210 ft., but this is by no means the maximum length of welded rail that can be used. The advantage of using welded rails in the track are many. The running on such a track is smooth, and causes less damage to the rolling stock. It would reduce the cost of maintenance and the wastage of ballast. It should also remove the necessity for extra sleeper at the joint. Against these savings, the cost of welding has to be reckoned. Reliable figures showing the possible economies in the use of welded rails on tracks in India are not available but the experience of other countries would support the conclusion that economies would be substantial in addition to making the running smoother and, therefore more comfortable. The Railway Board are undertaking further experiments and we hope that these experiments would be undertaken on sufficiently large scale to reach definite conclusions,

including the economic aspect of the problem, and that the practice of using welded rails would be extended to Indian Railways.

42. *Treatment of unstable soils.*—Railways are spending large amounts on repairs to unstable banks and on increased cost in the maintenance of track on bad formations. The problem has been tackled by individual railways in various ways, but no satisfactory solution has yet been found which would appreciably reduce or eliminate the expenditure now being incurred. The problem assumes great importance due to the heavy increase in labour and material costs. Appreciable percentage of the increase in the gang strength over the 1938-39 figures is stated to be to meet the difficulty of track maintenance on bad formations. A good percentage of the increase in sleeper densities on various railways is also due to the necessity to strengthen track on weak formations. Track laid on unstable banks requires increased depth of ballast under sleepers and large quantities of ballast are used subsequently to make up losses due to the working down of ballast into the bank on such weak formations. If, therefore, a solution could be found to stabilize such banks, considerable expenditure now being incurred on Capital Account and on Maintenance Cost could be reduced. We recommend that vigorous research should be made in the problems of the treatment of black cotton and other unstable soils and the best methods of drainage of waterlogged banks and cuttings. A good deal has already been accomplished in this line during the war period and no doubt the research department of the Indian Railways will make full use of the research and experience of India and other countries in dealing with this problem.

### C. Supervision

43. The quality of supervision on Railways in the Engineering Department is generally satisfactory. It was suggested to the Committee in evidence that the qualities of leadership, initiative and personality should be given more weight than is done at the present time in the selection of candidates to the Superior Service of the Engineering Department of Railways. Partly as the result of the Partition and partly owing to premature retirements, some of the railways are suffering deterioration in the quality of supervision owing to the accelerated promotion of inadequately experienced Assistant Engineers to the District rank and also by the promotion of large number of upper subordinates to the Class II (Lower Gazetted) Service.

In regard to the adequacy or otherwise of the supervising staff, the following table gives the number of such staff of different categories per equated track mile on the different railways:—

*Table 3. Supervisory Staff per equated track mile.*

Rlys.	Equated track miles 1945-46	No. of DE or XEN	No. of AENs	Equated mile per DE or XEN	Equated mile per AEN	No. of PWI and APWI	Equated mile PWI and APWI
B.N. ..	3,897	8	24	487	162	164	24
B.B. & C.I. .	3,383	12	18	282	188	195	17
E.I. ..	6,386	15	32	426	200	157	41
G.I.P. ..	4,594	13	48	381	103	152	33
M. & S.M. ..	3,223	9	19	358	170	184	18
O.T. ..	3,436	8	24	439	143	84	41
S.T. ..	2,233	8	16	279	140	234	10

DE—District Engineer.

XEN—Executive Engineer.

AEN—Assistant Engineer.

PWI—Permanent Way Inspector.

APWI—Assistant Permanent Way Inspector.

*District Engineers.*—The general experience of railways points to the conclusion that satisfactory length of a district both from the point of view of economy and efficiency of supervision is between 400 and 500 miles. Districts comprising of big yards would necessarily be of shorter lengths and those containing branch or relatively less important sections of the main line will have longer lengths than the average. Both on the B. B. & C. I. and S. I. Railways the average district lengths are less than 300 miles. There is room for economy in reducing the number of districts both on the B. B. & C. I. and S. I. Railways.

*Assistant Engineers.*—Except for the sub-divisions containing big yards, or on sections of line with scanty traffic, the average length of a sub-division for effective supervision is between 150 and 200 miles. There is room for economy on some of the railways but particularly on the G.I.P., unless the increase in the strength of Assistant Officers is entirely due to special works on the railways.

*Permanent Way Inspectors and Assistant Permanent Way Inspectors.*—The S.I., M. & S.M. and B.B. & C.I. Railways provide too generous supervision, as equated track miles per P.W.I. and A.P.W.I. on these railways are 10, 18 and 17 respectively, against an average of over 40 miles for the other railways. On these railways there is room for considerable reduction of Permanent Way Supervising Staff without any loss of efficiency.

44. *Special Test Car.*—The speed, safety and comfort of rail travel are of the utmost importance, and these can be secured only by satisfactory track maintenance, which demands constant care and attention to the removal of defects. It is obvious that mechanical means should be available to locate defects and to obtain records of the condition of permanent way at intervals to ascertain if necessary standards are being maintained and whether the quality of maintenance is improving or deteriorating. This can be achieved by the use of special test car as is being done by the G.I.P. Railway or by the use of Hallade instrument. The former has the advantage of not only recording defects on charts but also of giving visual indication of such defects to the Permanent Way Gangs by marking defective spots with whitewash as the test car passes over the length of the track. The test car can be used by more than one railway. Its extended use by other railways may be considered, provided the cost of acquiring and fitting a special car is considered reasonable. Most of the other railways used the Hallade instrument for track recording before the war, and it is recommended that railways should obtain records of the condition of track by Hallade instrument or by special test car twice a year. It is suggested that the graphs should be cut into gang lengths and pasted in a register with the Permanent Way Inspector so that he can see where his sections stand in comparison.

For records to be of the utmost value to the executive staff, it is important that the time lag between the making of the test and the availability of the annotated records should be reduced to the order of 24 hours.

#### D. Manufacture of Equipment

45. *Departmental manufacture.*—Railways have generally found it necessary to have Engineering Workshops under the control of the Chief Engineer to supply the special and urgent needs of the Engineering Department, and we consider that these shops serve a useful and important purpose. These were chiefly jobbing Shops but owing to conditions of scarcity created by the war, the activities of some of these shops have been considerably extended to include the manufacture of a large variety of equipment which was previously purchased directly from the market. The M. & S.M. Railway Engineering Workshop at Arkonam employed 2,250 men in 1947 who, in addition to jobbing work, manufactured permanent way materials, signal materials, bolts and nuts, special castings, fabricated steel work for bridges, produced woodwork including doors and windows, furniture, etc. There was also a yard for the manufacture of "Concrete" items. It also does considerable work of reconditioning unserviceable and scrap items for re-use on line. The shops have been

of inestimable benefit during the war time, but there is a tendency in this and other Engineering Workshops of perpetuating the manufacture of items which cannot be justified either on the score of economy or availability. It is, therefore, necessary that periodical reviews should be made to ensure that articles which are readily and economically obtainable in the open market are not continued to be manufactured in the Engineering Workshops. It is important that these shops should have a dependable costing system which would readily give the accurate cost of manufacturing any item desired. The costing system in the Arkonam Shops is not based on commercial principles as appreciable lump sum amounts are raised against shops yearly and accepted over and above the amounts debited to the cost of articles manufactured but are not apportioned to the cost of these items. This results in the cost figure being below the actual cost incurred. The cost comparison should take quality into consideration. We revert to costing system in paragraph 168, Chapter IX of this Report. It was admitted that the signal gear manufactured in the Shops was not up to the standard of gear manufactured by the specialist firms but the saving in cost might well compensate for the difference in the quality of the standard. It is doubtful if the manufacture of the large number of items in the Arkonam Shops can be financially justified. In view of the rising costs of labour and supervision, it is important that departmental manufacture of railway equipment should be limited to articles which cannot be readily obtained in the open market, or can be more economically manufactured than purchased in the open market. Every effort, however, should be made to lower the cost of manufacture of an article before it is decided to discontinue its manufacture in a workshop, on the score of economy.

**46. Reconditioning of track materials.**—Reconditioning of track materials by welding and other means has received considerable attention on the railways but we believed that there is still wide scope for improvements and extension in this direction.

**Rails.**—The heavy renewal programme will release large number of rails which are intended to be used for secondary renewals. Rails with battered ends should have their ends cropped and these should be welded and used on renewals. As recommended by the Wedgwood Committee, number of short rails which would otherwise be considered as scrap, should be welded and used on sidings.

**Sleepers.**—Railways recondition B. G. unserviceable steel sleepers for use on sidings or convert them for use on the M.G. Different methods are used on railways with varying costs and it is important that information on the subject should be exchanged between railways with a view to economy and extended use.

**Fishplates.**—Joints become 'low' due to the wear of fishplates in the centre. This causes rail 'batter' eventually resulting in permanent damage to the rail ends and necessitating renewals. Some of the railways use shims while the G.I.P. Railway, as a result of trials extending over many years, adopted the use of Re-pressed Fishplates on a large scale. The G.I.P. Railway found that the cost of providing shims at joints was annas 13-4 per joint with a resulting life of five years whereas re-pressing fishplates cost annas 11-7 per joint with a life of 10 years. This represents substantial economy and it is recommended that the use of reconditioned fishplates be extended to other railways which have not so far adopted this practice.

**Points and Crossings.**—It is surprising that the use of welding for the reconditioning of crossings has not yet become a matter of common practice on Indian Railways, in spite of the fact that its success both in regard to utility and economy is unquestioned. From the information given by the railways, it appears that some of them are not availing themselves of the economies resulting from this practice, while others, who have adopted the practice, are not obtaining equally satisfactory results. One railway obtains a life of one year out of the reconditioned crossings, while another obtains an average of about 4 years life. Similarly, the costs of reconditioning vary considerably. The East Indian Railway appears to have

developed a satisfactory technique for the reconditioning of points and crossings and it should not be difficult for other railways to have their men trained in that technique to obtain equally satisfactory results. Proper welding should extend the life of a crossing 50 per cent and more and railways should take early steps to derive full advantage of the economies to be realised by the adoption of the practice of reconditioning crossings by welding. The use of welding in the reconditioning of crossings should be extended to all railways and should also include reconditioning of tongue rails. One railway is already doing it successfully.

**Permanent Way Tools.**—Railways are not making full use of welding for repairs to tools and plant. Beaters are generally repaired by all the railways but it is both economical and practical to repair worn out shovels, phowrahs, ballast forks, etc. by welding and a large number of accessories can be economically manufactured from scrap. An interchange of information by railways periodically would lead to extended use of welding in this direction.

### E. Structural Maintenance

**47. Building Maintenance.**—The following statement gives the cost of maintenance of residential and service buildings for the various railways for 1946-47 and 1938-39:—

Table 4.—Cost of building maintenance.

Railways	Cost of maintenance—Residential Buildings. (Rupees in thousands)			Cost of maintenance—Service Buildings. (Rupees in thousands)		
	1938-39	1946-47	Percentage increase	1938-39	1946-47	Percentage increase
B.N.	828	2,227	171	360	948	163
B.B. & C.I.	405	918	127	415	869	109
E.I.	952	3,106	226	1,056	2,724	158
G.I.P.	497	1,715	245	431	1,727	299
M. & S.M.	182	660	263	187	542	191
O.T.	193	301	55	344	391	12
S.I.	172	342	99	203	388	91

It would appear that the percentage increase in the cost of maintenance in 1946-47 as compared with 1938-39 varies greatly on railways. The E.I., G.I.P. and M. & S.M. Railways show increases in maintenance much above the average. The increase on the O.T. Railway is remarkably low, but we hope that this is not owing to inadequate maintenance. On the S. I. Railway the increase is only about 100 per cent which is much below the increase on the other railways with the exception of the O. T. Railway.

This comparison does not, however, take into account the relative basic cost of maintenance of buildings as related to plinth areas.

The following statement gives the cost in rupees per 100 sq. ft. of plinth area of floor for the various railways from 1938-39 to 1946-47:—

Table 5.—Cost of building maintenance—Residential Buildings.

(Cost in rupees per 100 sq. ft. plinth area of floor)

Year	B.G.					M.G.			
	B.N.	E.I.	G.I.P.	M.S.M.	S.I.	B.B.&C.I.	S.I.	M.S.M.	
1938-39	6.95	3.79	4.75	2.28	2.29	3.36	2.30	1.73	
1939-40	8.69	4.03	3.96	2.33	2.04	3.31	2.39	2.02	
1940-41	9.11	3.90	5.30	2.59	1.78	3.05	2.49	2.24	
1941-42	8.93	4.49	5.60	3.06	2.65	2.92	2.31	2.01	
1942-43	11.1	3.68	6.60	2.25	2.13	3.66	2.43	2.29	
1943-44	Not available.	7.96	6.70	2.46	1.69	4.19	2.71	2.07	
1944-45	10.9	7.94	8.62	3.62	2.23	4.93	3.60	2.52	
1945-46	11.5	12.0	11.3	6.92	3.37	5.03	4.00	3.67	
1946-47	16.1	10.9	16.2	8.59	4.30	7.26	4.84	5.34	
Average	10.4	6.5	7.7	3.8	2.5	4.2	3.0	2.7	

(B.B. & C.I. (B.G.) and O.T. figures are not available.)



It will be noticed that the average cost of maintenance for 100 sq. ft. plinth floor area on the B.N., E.I. and G.I.P. Railways from 1938-39 to 1946-47 is Rs. 8.2 and is nearly two and a half times the average cost of maintenance of Rs. 3.2 on the remaining railways. For some special reasons, the cost of maintenance per 100 sq. ft. of plinth area has always been much higher on the B. N. Railway than on the other railways. Taking the average rate over the past 9 years ending with 1946-47, the average cost of maintenance on the B. N. Railway was Rs. 10.4 per 100 sq. ft. of plinth area of floor against the average cost of Rs. 4.3 for the same period on all other railways or more than double the average cost of all other railways. The cost of maintenance on the E.I. and G.I.P. Railways have equalled the cost on the B. N. Railway for 1945-46 although up to 1944-45, the costs on these railways were much lower than the cost on the B. N. Railway. This would point to the necessity of economies on the B.N., E.I. and G.I.P. Railways. It is significant that the cost of maintenance came down to Rs. 10.9 per 100 sq. ft. of plinth floor area on the E. I. Railway in 1946-47 as compared with the cost of Rs. 16.1 on the B. N. Railway.

The costs of maintenance of Service Buildings in rupees per 100 sq. ft. of plinth area of floor for the various railways from 1938-39 to 1946-47 are given below:—

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Table 6.—*Cost of Building Maintenance—Service Buildings.*

(Cost in rupees per 100 sq. ft. plinth area of floor.)

		B.G.					M.G.		
Year		B. N.	E. I.	G. I. P.	M. S. M.	S. I.	B. B. & C. I.	M. S. M.	S. I.
1938-39	..	6.55	6.17	2.92	2.53	3.85	4.47	3.63	2.99
1939-40	..	7.80	6.73	3.07	2.30	2.19	4.13	3.86	2.68
1940-41	..	7.46	7.54	3.55	2.51	2.20	4.11	4.23	3.21
1941-42	..	7.68	7.72	4.02	2.92	3.69	4.34	3.98	2.67
1942-43	..	8.44	6.74	4.89	2.00	2.36	5.07	3.69	3.03
1943-44	..	8.93	7.74	4.59	2.64	2.32	9.05	3.32	2.27
1944-45	..	10.7	8.95	5.44	4.85	2.68	8.02	4.42	4.51
1945-46	..	12.6	12.30	8.16	5.64	3.73	6.67	4.87	5.50
1946-47	..	15.5	16.20	14.0	7.77	5.52	9.50	8.23	6.27
Average	..	9.5	8.9	5.6	3.7	3.2	6.1	4.5	3.70

[B. B. & C. I. (B.G.) and O.T. figures are not available.]

The cost of maintenance per 100 sq. ft. plinth area of floor from 1938-39 to 1946-47 has been very high on the B. N. and E. I. Railways, the average being Rs. 9.2 for the two railways, which is over twice the average cost of Rs. 4.5 for the past 9 years of all the other railways. The increase in the cost of maintenance in 1946-47 as compared with 1938-39 has been disproportionately high on the G. I. P. Railway. There is considerable room for economy on these railways.

These comparisons have shown wide disparities in the maintenance costs of buildings. It is appreciated that the difference in design and standards of construction, variation in labour and material costs differences in climatic conditions would affect cost of maintenance which would, therefore, vary for the different railways, but the differences commented upon in respect of some of the railways are so great that they cannot be satisfactorily explained as arising only out of these factors. Railways concerned should carefully scrutinise details of expenditure and methods of maintenance with a view to affect economies and bring down unit costs.

In view of the heavy buildings construction programme, it is important that great attention should be given to the design of new structures which should not only be economical in first costs but should also be economical in maintenance. Some of the railways have remarkably low maintenance costs and investigation into the reasons for such

low expenditure would help railways with comparatively high costs of maintenance.

In areas where building costs are disproportionately high; it is suggested that new constructions should be limited to those essential projects which are directly remunerative. Railways will have to face appreciable increase in the cost of new constructions and programmes need not be deferred unduly on account of high costs except in localities where temporary conditions have created abnormally high costs.

The problem of evolving an economical and suitable design for buildings in the Black Cotton soil area has not yet been satisfactorily solved, with the result that both the Capital cost and Maintenance cost of such buildings are high. Again, research is required to solve this problem.

**48. Bridge work Repairs and Maintenance.**—In view of the scarcity and high cost of steel, the possibility of reconditioning and strengthening existing girders should be considered as an alternative to costly renewals at the present time. The renewal of girders should also be decided on condition basis, as is usually the practice on Indian Railways, and not on the basis of anticipated life as laid down in the Code.

The B.B. & C.I. Railway had a girder renewal programme costing about Rs. 2.5 crores. The Bridge Department of this Railway find that the girders are strong enough to take XC engines and instead of regirdering all bridges, they propose to recondition the existing girders by replacing the top corroded plates, removing the cross girders and providing cement concrete bed blocks. This is estimated to cost Rs. 15 lakhs only and would effect a saving of Rs. 2 crores.

Other railways, having programme for renewals of girders, should, therefore, explore the possibility of postponing renewals by suitable reconditioning of the existing girders.

#### F. Control of Expenditure

**49. Unit statistics for allotment of funds and control of expenditure for Engineering Maintenance.**—The budgetting principles as laid down in the Code are followed for the allotment of funds for Engineering maintenance. Estimates based on actual requirements are submitted by the Engineering subordinates through the Assistant Engineer to the Divisional or District Engineer after scrutiny who in turn forwards them to the headquarters through the Divisional Superintendent, where one exists. The headquarters office then allots funds on receipt of budget grants. Railways do not, therefore, use the unit statistics for the purpose of the allotment of funds to the various divisions or districts for engineering maintenance. An attempt was made on the E. I. Railway in 1931-32 to develop the idea of unit allotment but was given up in 1938 for the following reasons:—

- (i) Unit cost, as worked out, varied so widely as to be useless for fixing as a standard.
- (ii) Owing to the varying conditions on different sections of the line, it was not possible to judge the control of expenditure exercised by the Inspectors with the help of such statistics.

Thus one of the main objectives of unit allotment was not achieved. There are obvious advantages in allotting funds and in the control of expenditure on the basis of unit statistics but in the present unstable conditions of the costs of labour and materials, we do not consider that it is practicable to apply this system. But when conditions return to normal, it would be advisable if railways were to experiment with this system in a restricted manner on a division or district basis, to ascertain how far it can be adapted to their needs. Railways should start preliminary investigations to decide as to how they propose to try its experiment.

## CHAPTER IV

### MECHANICAL ENGINEERING

#### A. Introductory Remarks

50. The movement of passengers and goods on the Indian Railways cannot be effected freely and efficiently without the provision of adequate rolling stock and its satisfactory maintenance. It is the duty of the Mechanical Department of the railways to provide locomotive power and maintain efficiently locomotives and coaching and goods stock to meet the needs of the Operating Department. It is, therefore, obvious that efficiency of the Indian Railway transport system depends to no small extent upon the efficiency of their Mechanical Departments. The department is not only to provide the means of transport to meet the increase in demand at the present time but has also to prepare itself to meet future demands arising out of the national policies of industrialisation and intensive agricultural developments. Rail transport has to be free from hampering restrictions. For this purpose, the rolling stock must not only be adequate but must be maintained in good condition. It is, therefore, of the utmost importance that the working of the Mechanical Workshops and the Locomotive Sheds should be satisfactory and efficient, and that the output in regard to repairs of locomotives, carriages and wagons should be adequate for the needs of each railway. In our tours, we inspected a number of Locomotive Sheds and all the important Mechanical Workshops of the Indian Railways with the exception of E.I.R. Shops at Lucknow and the M. & S.M. Workshops at Hubli. We observed their organisation, equipment and methods of work. We closely questioned the Chief Mechanical Engineers of the different railways and their senior officers, including Works Superintendents and Works Managers of the Mechanical Workshops, about their problems, the present output and their future plans. We were distressed to find that, generally speaking, the efficiency of the Mechanical Department had been going down with consequent adverse effects on the capacity of the Indian Railways to meet the demands for railway transport in the country. Our observations and the evidence placed before us indicated rising costs in the workshops without a proportionate increase in production. The low output by labour, the high percentage of locomotives under or awaiting repairs in sheds and shops, the deterioration in the quality of maintenance in sheds, the poor quality of supervision, the low outturn of locomotives, coaches and wagons from the shops and an increase in the time taken to repair them, presented problems requiring to be tackled with vigour and determination. We were glad to know that the responsible officers of the department fully realised the far-reaching implication of these factors, but unfortunately not many of them were hopeful that they would be able to remedy the existing unsatisfactory position. At the time of our inspection, the picture, therefore, was very depressing, but we are glad to state that we have recently received reports of an appreciable increase in production. We hope that this improvement will persist and extend, and we trust that our observations and recommendations will give effective help in this direction.

#### B. Locomotive Stock and Availability

51. *Stock of Locomotives.*—The average number of locomotives on the Indian Government Railways (excluding the B.A. and N.W. Railways) were as follows:—

Table 1.—Average number of Locomotives

Railway	1929-30	1938-39	1946-47	1947-48	1938-39	1947-48
					Percent- age of 1929-30	Percent- age of 1938-39
B. G.—						
B. N.	689	644	747	720	92	103
B. B. & C. I.	378	358	385	411	95	109

Railway	1929-30	1938-39	1946-47	1947-48	1938-39		
					Percent- age of 1929-30	Percent- age of 1929-30	Percent- age of 1948-39
E. I.	1,515	1,530	1,318	2,009*	98	127	129
G. I. P. (Steam)	1,101	873	787	792	61	72	118
M. & S. M.	297	300	353	352	101	119	117
S. I.	148	151	163	185	104	124	120
Total	4,007	3,680	4,308	4,460	88	106	121
<i>M.G.—</i>							
R. B. & C. I.	577	461	453	493	91	95	104
M. & S. M.	351	320	297	269	90	84	93
O. T.	423	486	523	536	113	132	117
S. I.	401	337	355	353	97	89	93
Total	1,601	1,657	1,633	1,701	98	101	103

\*Includes 218 engines on Sealdah Division (Old B.A. Railway).

The average number of locomotives during the last ten years and in 1929-30 is given in Appendix VI.

It will be noted that between 1929-30 and 1938-39, the number of locomotives decreased by 12 per cent on the B.G., and by 2 per cent on the M.G. The figure on the Broad Gauge for 1947-48, includes the locomotives on the Sealdah Division of the old B.A. Railway, now forming part of the E. I. Railway. Between 1929-30 and 1947-48 the number, excluding the engines on the Sealdah Division, increased by 1 per cent on the Broad Gauge. The increase in the number of locomotives in 1947-48 over the figures for 1938-39 was 21 per cent on the Broad Gauge and 3 per cent on the Metre Gauge; but if the figure for the Sealdah Division is excluded, the percentage increase on the Broad Gauge comes to 15 per cent only.

It is important to ascertain, whether this increase in the number of locomotives has been accompanied by a relative increase in the Passenger and Goods train performances and for the purpose of this investigation, we give the following relevant figures for the pre-partition Government Railways including the B.A. and the N.W. Railways, for the years 1938-39 and 1946-47.

Table 2—Quantum of work performed and the number of locomotives

		1938-39	1946-47	Percent- age of 1938-39
Passengers carried	(Lions)	492.6	1,050.7	213
Passenger miles	"	17,203.0	38,177.0	222
Net goods ton miles	"	21,160.0	25,743.0	122
Passenger train miles (including proportion of mixed).	B.G.	69.04	65.48	95
	M.G.	30.18	25.20	84
	Total	99.22	90.68	91
Goods train miles (including proportion of mixed).	B.G.	47.03	52.15	111
	M.G.	16.50	17.20	104
	Total	63.53	69.35	109
	B.G.	19.41	21.60	127
Shunting Engine miles	M.G.	7.12	9.66	136
	Total	26.53	34.26	129
No. of locomotives	B.G.	5,230	5,961	114
	M.G.	2,068	2,340	113
	Total	7,298	8,301	114

It will be noticed that during this period, the number of locomotives on both the Broad Gauge and the Metre Gauge Railways, increased by 14 per cent., but the total passenger and goods train miles decreased by 2 per cent. Taking these services separately, the passenger train miles decreased by 9 per cent but the goods train miles increased by 9 per cent. In spite of the decrease in the passenger train miles, there was an increase of 113 per cent in the number of passengers carried chiefly due to overcrowding. It is clear from these figures that judged by train mile performance, the utilization of locomotives deteriorated in 1946-47 as compared with 1938-39. This does not, however, give an accurate picture of the relative efficiency in the use of locomotives on passenger and goods services separately, and for this purpose, an analysis of the number of engines employed on each of the various services, *i.e.* Passenger, Goods, Shunting and Departmental, has been made for the years 1938-39 and 1946-47 and the number of engines which should have been employed in 1946-47 on the basis of the performance of 1938-39 has been computed with the following results. (For detailed calculations see Appendices VII, VIII and IX).

Table 3.—*Estimate of additional locomotives used in 1946-47*

Service	No. of locomotives			Train miles (Millions)			No. of locos sufficient for requirements in 1946-47 (on basis of 1938-39)	No. of additional locos. used in 1946-47
	1938-39	1946-47	%	1938-39	1946-47	%		
Passenger including mixed	1,311	1,208	-8	69.04*	65.48*	-5	1,208†	Nil.
Goods excluding proportion of mixed	1,367	1,791	+31	43.57	50.16	+14	1,559	232
Shunting	687	923	+34	47.03*	52.15*+11		744	179
Departmental	212	284	+34	Based on passenger and goods shunting miles in proportion of train miles.			234	50
Total	3,577	4,206	+18				3,715	461

*M. G.—*

Passenger including mixed	788	617	-22	30.18*	25.20*	-16	617†	Nil
Goods excluding proportion of mixed	398	508	+28	12.94	15.70	+20	480	28
Shunting	204	272	+33	16.50*	17.20*+4		205	67
Departmental	95	118	+24	Based on passenger and goods shunting miles in proportion of train miles.			88	30
Total	1,485	1,515	+2				1,390	125

\*Includes proportion of mixed.

† On the basis of the performance of 1938-39, 1243 engines would have been required on the B.G. and 658 on the M.G. but since the number of locomotives actually used was less the actual number in that year has been adopted as being sufficient for requirements.

**Passenger Services.**—As compared with 1938-39, the number of locomotives employed on passenger and mixed trains in 1946-47, decreased by 8 per cent on the B.G. and by 22 per cent on the M.G. but the decrease in passenger train miles was only 5 per cent on the B.G. and 16 per cent on the M.G. The results in 1946-47, on the basis of the performance in 1938-39, would appear to be satisfactory.

**Goods Services.**—The number of engines employed on goods services in 1946-47 increased by 31 per cent on the B.G. and by 28 per cent on the M.G., but the goods train miles, including proportion of mixed increased only by 11 per cent on the B.G., and by 4 per cent on the M.G., but excluding proportion of mixed by 14 per cent and 20 per cent respectively. Therefore, in 1946-47, the efficiency in the use of locomotives for goods service deteriorated on the basis of the performance in 1938-39 both on the Broad and Metre Gauge Sections of the railways in India. Had the performance of 1938-39 in respect of train miles been maintained in 1946-47, 232 B.G. and 28 M.G. additional locomotives would have been available out of the stock of locomotives in 1946-47, to carry extra traffic.

The railways chiefly responsible for the deterioration in the use of locomotives for goods services are the E.I. and B.N. Railways on the B.G., and the B.B. & C.I. and O.T. Railways on the M.G.

**Shunting Services.**—The number of engines employed on shunting increased on the B.G. by 34 per cent., and on the M.G. by 33 per cent. The passenger and goods train miles combined showed no increase, although the goods train miles (including proportion of mixed) increased by 11 per cent on B.G. and 4 per cent on M.G. It is evident that the additional engines employed on shunting were not justified by the increase in the train miles. The excess number of shunting engines employed in 1946-47 on the basis of the 1938-39 figures were 179 on the B.G. and 67 on the M.G. (See Appendix IX).

**Departmental Services.**—The basis for determining the number of engines required for departmental services would vary with the nature of work to be performed. We are justified in assuming that the departmental services were not running more efficiently than the shunting services. The number used on the B. G. increased from 212 in 1938-39 to 284 in 1946-47, and on the M.G. increased from 95 to 118. Adopting the basis of excess engines for shunting, it is estimated that 50 B.G. and 30 M.G. locomotives were in excess on departmental services.

This would bring our estimate of extra locomotives used on goods, shunting and departmental services in 1946-47, on the basis of the performance in 1938-39, to the total figure of 461 B.G. and 125 M.G. engines. Excluding the B.A. and N.W. Railways the figure works out to 328 Broad Gauge and 57 Metre Gauge engines.

**52. Availability of Locomotives.**—The percentage of locomotives under or awaiting repairs in locomotive workshops and running sheds in 1938-39 and 1947-48 is given below:—

TABLE 4.—Percentage of Locomotives under or awaiting repairs

	1938-39	1946-47	1947-48
<b>Broad Gauge.—</b>			
B. N.	22.0	15.7	16.8
B., B. & C. I.	21.4	24.8	30.1
E. I.	15.6	18.0	19.7
G. I. P.	18.9	19.3	20.0
M. & S. M.	22.0	21.3	21.4
S. I.	14.9	15.7	17.0
<b>Metre Gauge.—</b>			
B., B. & C. I.	17.0	15.5	32.6
M. & S. M.	15.6	19.6	20.8
O. T.	13.7	14.3	15.0
S. I.	11.7	11.4	12.3

(Detailed figures for the last ten years are given in Appendix X.)

It will be seen that with the exception of the B.N. Railway there has been a general deterioration on all the railways and the percentages of locomotives under or awaiting repairs stand at high figures, thus making the position in this respect unsatisfactory on all the railways. The position of B.B. & C.I. Railway, both B.G. and M.G., is particularly bad. In 1944, the Railway Board asked the railways to attempt to work to a target figure of 12 per cent but this could not be achieved on the B.G. The percentage on the B.N., E.I., M. & S.M. and S. I. Railways (B.G.) was approximately 15, while the percentages on the O.T. and S.I. Railways (M.G.) were much better, being 11·7 and 8·3 respectively. In the light of past experience it is not unreasonable to expect the Indian Railways to work in the first instance to a target of 15 per cent of locomotives under or awaiting repairs in Shops and Sheds. The number of additional locomotives which would have become available to move traffic, had the target of 15 per cent been reached in 1946-47, would have been 206 B.G. and 129 M.G., but excluding the B.A. and N.W. Railways the figures work out to 156 B.G. and 48 M.G. locomotives. (See Appendix XI).

To sum up, the total number of locomotives on all Government Railways excluding the B.A. and N.W., which would have become available for additional traffic in 1946-47 as a result of better utilisation on the basis of the performance in 1938-39 and the increased availability of locomotives with percentages under or awaiting repairs in Sheds and Shops kept at or below 15 per cent would have been 484 Broad Gauge and 105 Metre Gauge locomotives. The economies in engine utilisation on this basis should form the preliminary target for Indian Railways and when this target is attained it would make about 10 per cent of the existing stock available for additional traffic.

The problem of improved power utilisation can be viewed also from another angle. On an analysis of the figures of engine utilisation over a number of years, we find that, generally speaking, the highest average of engine miles per day per engine on line was attained during the war (in 1941-42) when roughly the average for the Broad Gauge Railways was about 90 miles, (exact number 87 miles) and for the Metre Gauge about 85 miles (exact number 81 miles). Had this average been attained in 1946-47, the number of additional locomotives which would have become available on Government Railways, excluding the B.A. and N.W., would have been 736 Broad Gauge and 292 Metre Gauge, or about 17 per cent of the total stock. These are economies well worth aiming at and in view of what was achieved in 1941-42, they should be capable of attainment at the present time. Improved power utilisation on this basis should, therefore, form part of our short term target.

In our opinion, the Indian Railways should not be satisfied with the attainment of this short term target. The performance in regard to engine utilisation in 1941-42 on which we have based our short term target was in no way near the maximum efficiency achieved by some of the Indian Railways in war years. The maximum mileage per day per engine on line was 102 miles on the Broad Gauge (B.N. and G.I.P. in 1941-42), and 95 miles on the Metre Gauge (O.T. 1941-42). We would, therefore, expect the Indian Railways to aim at 100 miles per day per engine on line, as a long term target. To give an idea of the implication of the attainment of such a target, we would mention that had this been reached in 1946-47, 493 more locomotives on the Metre Gauge and 1,093 more locomotives on the Broad Gauge would have become available. We do not consider that such a long term target is impossible of attainment as an average for all Indian Railways. Its attainment in the future becomes more practical in view of the fact that a large number of locomotives whether old or of obsolete types are now being replaced by modern and specially designed locomotives which are more efficient in operation. We have discussed this subject in Chapter V where the effect of wear and tear in war years has been taken into account, and we have suggested the lines on which action should be taken to reach maximum utilisation.

It may be urged that factors peculiar to individual railways such as the nature of traffic and its density, physical conditions affecting the line such as gradients, the proportion of branch and feeder lines, the number of junctions relative to route mileage, the age of locomotives etc., might militate against the attainment of a uniformly high standard of utilisation. We do not underrate the importance of these factors. We also agree that such figures and calculations as we have given above have to be interpreted with caution. Notwithstanding these considerations, we have no doubt in our mind that considerable improvement approaching the maximum efficiency of utilisation already attained on some railways is possible and that an estimate of this kind—the possible surplus engines on the basis of improved availability and utilisation—is of value in setting up the targets, determining workshop capacity, replacement programmes, and considering proposals for adding to the stock of locomotives to carry additional traffic.

We deal with the question of power utilisation fully, in paragraph 124, Chapter V.

### C. Locomotives Repairs—in Shops

53. *Mechanical Workshops—Locomotive Repairs* Reference has already been made to the high percentage of locomotives under or awaiting repairs in shops and sheds. The average number of such locomotives in the Shops on the Indian Government Railways, excluding the B.A. and N.W. Railways, was 205 during 1938-39 and 238 in 1946-47 on the B.G. and 63 and 108 respectively on the M.G. There was thus an increase of 71 per cent in the number of locomotives under or awaiting repairs in shops on the M.G. as against an increase of 16 per cent on the B.G., the maximum increase on the M.G. being on the B.B. & C.I. and the O.T. Railways. The number of locomotives immobilised in shops alone, in 1946-47 was about 6 per cent of the total stock of locomotives. The implication of this increase on the availability of power needs no elaboration. (See Appendix XII).

An improvement in the general standard of locomotive maintenance would, naturally reduce the percentage of locomotives under or awaiting repairs. This standard can only be improved when in mechanical workshops, railways are able to keep locomotive repairs current. Unfortunately at the present time, all railways are heavily in arrears in regard to the heavy and intermediate locomotive repairs. It has not been possible to obtain reliable figures of the extent of these arrears, but administrations have admitted that these are heavy. In 1947-48 as compared with 1938-39, there has been a 21 per cent increase in the number of locomotives on the B.G. (excluding Assam and E.P. Railways) but the number of heavy repairs (P.O.Hs.) done by the railways decreased by 6 per cent and on the M.G. against an increase of 3 per cent in the number of locomotives, the number of heavy repairs (P.O.Hs.) declined by 33 per cent. (See Appendix XIII). The deterioration in the output from workshops is accompanied by an increase in the time the engines are detained in the workshops for periodical overhaul. The average number of days engines were in shops increased by 37 per cent on the B.G. from 35 days in 1938-39 to 48 days in 1947-48 and on the M.G. by 132 per cent from 28 days to 65 days. (See Appendix XIV). The increase has been abnormal on the B.B. & C.I. (M.G.) Railway as the number of days rose from 39 in 1938-39 to 119 days in 1947-48, i.e. an increase of 25 per cent. The E.I. and G.I.P. Railways on the B.G., and all the M.G. Railways, except S.I., showed heavy increases. As judged by these figures, the efficiency and output have deteriorated considerably. The fall in output is further illustrated by comparing the number of P.O.Hs. of 1947-48, with the best outturn of the various shops during the past 10 years; the maximum capacity as given by the railways is also shown in the statement.



TABLE 5.—Output and capacity Workshops

Railway	Workshop	Capacity for P.O.H. as advised by Railways	Maximum output in POH last 10 years	Maximum capacity higher figures of Col. (3) & (4)	Actual output in POH 1947-48	Increase in actual output to reach output in Col. 4	Increase in actual output to reach capacity in Col. 5
1	2	3	4	5	6	7	8
<b>B.G.</b>							
B. N. .	Kharagpur	288	305	305	216	41%	41%
B. B. & C.I.	Dohad .	72	95	95	62	53%	53%
E.I. .	Jamalpur	480	499	499	385	30%	30%
	Lucknow						
G.I.P. .	Parel .	312	327	327	262	25%	25%
M. & S. M.	Perambur	96	91	96	65	40%	48%
S.I. .	Rock	36	40	40	20	100%	100%
		1284	1357	1362	1010	34%	35%
<b>M.G.</b>							
B.B. & C. I.	Ajmer .	8	144	144	74	95%	95%
M & S. M.	Hubli .	66	110	110	69	59%	59%
O. T. .	Gorakhpur	156	166	166	109	52%	52%
	Izatnagar						
S.I. .	Golden	72	95	95	49	94%	94%
	Rock						
		374	515	515	301	71%	71%

POH-Periodical Overhaul.

It will be noticed that 34 per cent increase in output is required on the B.G. and 71 per cent on the M.G., to reach the maximum output of the last 10 years. This is a measure of the fall in output as compared with past achievement. The output on the S.I. Railway, both B.G. and M.G., and on the B.B. & C.I. (M.G.) Railway has gone down to half of the maximum of the last 10 years. We do not ignore the excessive wear and tear caused to the locomotives during the war years as a result of intensive usage, but even taking this into consideration, these figures, in our opinion, unmistakably show the seriousness of the repair position of locomotives in the workshops. We also realise that heavy burden had to be shouldered by the workshops on account of the shortage in the supply of spare parts as well as on account of the non-availability of spare boilers which resulted in extra heavy repairs having to be carried out to the old boilers.

54. *Mechanical Workshops—Locomotive Repair Capacity.*—The capacity of the Locomotive Workshops has been chiefly determined by the maximum performance in the past 10 years, and it cannot be stated with assurance that this basis necessarily gives the maximum capacity of the workshops. The best performance on the G.I.P. Railway at the Parel Workshops has so far been 327 locomotive P.O.Hs. This was in the year 1943-44 when the Dohad workshop was handed over to the Defence Department, and repairs for the B.B. & C.I. Railway were done at Parel. The output in terms of P.O.Hs. has recently been stepped up to 30 per month and if this is maintained for the year this shop will have an output of 360 P.O.Hs. per year against the previous maximum of 327.

which will mean an improvement of about 10 per cent. on the previous maximum outturn of the shop. Already there have been improvements in recent months on the B.N., S.I., and the E.I. (excluding Kanchrapara) Railways where the number of P.O.Hs. has improved between the average monthly figure for 1947-48 and August 1948 from 18 to 21 on the B.N., from 6 to 9 on the S.I., and from 32 to 42 on the E.I. Railway. These railways, however, have not yet exceeded the maximum output of the last ten years. There is no reason to suppose that similar results are not possible in other workshops. We are entitled to expect even better results and it would be a conservative estimate if we accept the possibility of increased production by 10 per cent. only on the previous maximum. This will increase the workshop capacity on the B.G. to 1393 locomotive P.O.Hs. and on the M.G. to 567 locomotive P.O.Hs. In view of the heavy programme of replacement of obsolete types of locomotives by modern locomotives, the existing workshop capacity for repairs would appear to be adequate. These conclusions do not refer to the Assam and the E.P. Railways which at present have no workshop dealing with heavy locomotive repairs.

It will be further clear from what has been said above that there is no question at present of restricted workshop capacity hindering the adequate maintenance of locomotives.

We should like to sound a note of warning here. In our anxiety to increase output from mechanical workshops, we should not neglect the importance of ensuring that the quality of maintenance does not suffer.

#### D. Coaching Stock & Availability

56. *Stock of Passenger Carriages*.—The number of passenger carriages in terms of 4-wheelers on the Indian Government Railways, exclusive of the B.A. and N.W. Railways, decreased from 11,206 in 1938-39 to 10,797 in 1947-48, i.e., by 4 per cent. on the B.G. and from 8,149 to 7,007, i.e. by 14 per cent. on the M.G. (for details see Appendix XV).

56. *Stock of other Coaching Vehicles*.—The number of other coaching vehicles, in terms of 4-wheelers on the Indian Government Railways, exclusive of the B.A. and N.W. Railways, decreased from 2,315 in 1938-39 to 2,214 in 1947-48, i.e. by 4 per cent. on the B.G. and from 729 to 718, i.e. by 2 per cent. on the M.G. (For details see Appendix XVI.)

57. *Vehicle Usage*.—The utilisation of passenger carriages and other coaching vehicles can be judged by the number of hours per day on train per coaching vehicle on line, and by the number of vehicle miles per vehicle day. Fortunately both these figures improved substantially; the former increased by almost 33 per cent on the B.G., and 13 per cent on the M.G., and the latter improved by 19 per cent on the B.G., and 5 per cent on the M.G., in 1946-47 over 1938-39. These results are satisfactory, but a closer analysis of the vehicle miles per vehicle day is necessary to ascertain to what extent further improvement in utilisation can be expected in the light of the past experience. The following table gives the vehicle miles per vehicle day for the different railways:

TABLE 6.—Vehicle miles per vehicle day.

Railways	1938-39	1946-47	Percentage Increase (+) or decrease (—)
<b>B. G.</b>			
B. N.	146	170	+16
B. B. & C. I.	117	153	+32
E. I.	142	146	+3
G. I. P.	167	221	+32
M. S. M.	119	156	+31
S. I.	126	122	—3
<b>M. G.</b>			
B. B. & C. I.	92	108	+17
M. S. M.	109	124	+14
O. T.	130	177	+36
S. I.	109	111	+2

It will be seen that on the B.G., the G.I.P. Railway had the best figures of utilisation of 167 miles per day in 1938-39 and this improved by 32 per cent to 221 in 1946-47, the Railway still maintaining its premier position in this respect. The B.B. & C.I. and the M.S.M. Railways also improved their utilisation substantially. It would not be unreasonable to expect that the remaining railways, *i.e.* the B.N., E.I. and S.I., should be able to improve their utilisation by 33 per cent over the 1938-39 figures, which would bring the achievement on a par with the other three railways. It has, however, to be noted that although the B.B. & C.I. and the M.S.M. improved their utilisation substantially over the 1938-39 figures, the vehicle miles per vehicle day still remain low and we would be justified in expecting a further improvement of at least 10 per cent; in that case the figures will be as follows:--

TABLE 7.—Improved vehicle usage.

Railways	1946-47	Vehicle mile per vehicle day on possible improvement.	Remarks
<i>B. G.</i>			
B. N.	170	195 33%	increase on 1938-39
B. B. & C. I.	155	171 10%	„ 1946-47
E. I.	146	189 33%	„ 1938-39
G. I. P.	221	221	No remarks.
M. S. M.	156	172 10%	increase on 1946-47
S. I.	122	168 33%	„ 1938-39
Average	192		

This improvement in utilisation will help to relieve overcrowding the extent of which has been considered later. (See para 62.)

On the M.G. the vehicle miles per vehicle day averaged to about 114 miles in 1946-47. It will be noted from Table 6 that the figure on the O.T. Railway in 1938-39 was 130, and it will not be unreasonable to expect a modest improvement on each of the railways so as to increase the average from 114 to 130 miles per day. This improvement in utilisation will not make any coaches surplus to requirements but will only help in relieving overcrowding.

58. *Availability of Passenger Coaches*—Compared with 1938-39, there has been a general deterioration in the percentage of passenger coaches under or awaiting repairs in shops and sick lines in 1947-48; the percentage increasing from 9.9 to 13.7 of the total stock on the B.G. and from 6.8 to 9.3 on the M.G. (For details, see Appendix XVII.) On the B.B. & C.I. and the S. I. Railways, both B.G. and M.G. Sections, the deterioration was great. If the percentages of coaches under or awaiting repairs were to be reduced to the target figures of 6 (percentage on the S.I. Railway in 1938-39) on the B.G., and 4 on the M.G. (percentage on the O.T. Railway in 1946-47), the additional coaches available for extra traffic would have been 787 on the B.G., and 353 on the M.G. (excluding the E.P. and Assam Railways).

59. *Availability of other Coaching Vehicles*.—In the case of other Coaching Vehicles under or awaiting repairs in Shops and Sick lines, the general position is equally unsatisfactory; the deterioration being heavy on the E.I., S.I. and B.B. & C.I. Railways. (For details, see Appendix XVII.) Reduction in the percentage to the target figure of 4 per cent would release 214 vehicles for additional traffic on the B.G. and 50 on the M.G.

### E. Coaching Stock Repairs—in Shops and Future Outlook

60. *Mechanical Workshops—Coaching Stock Repairs*—The general condition of coaching stock on the railways is poor. The number of coaches overdue periodical overhaul is high and the number under or awaiting repairs in shops or sick lines has been steadily increasing. There was a decrease of 4 per cent in the number of passenger carriages on the B.G., and 14 per cent. on the M.G., in 1947-48 as compared with 1938-39, but the output of repairs to coaching stock decreased by 34 per cent on the B.G., and by 24 per cent. on the M.G., as can be seen from the following table:—

TABLE 8.—Output of repairs to coaching stock in the Workshops (in terms of 4-wheelers)

Railways	Output of repairs		Increase (·) or Decrease(—) in Output	Increase (·) or Decrease(—) in stock
	1938-39	1947-48		
<i>B. G.</i>				
B. N.	1537	1695	+10%	+2%
B., B. & C. I.	1198	637	—47%	—2%
E. I.	6821	3137	—54%	—6%
G. I. P.	2318	1985	—14%	—4%
M. & S. M.	934	954	+2%	—3%
S. I.	400	373	—7%	—5%
<i>M. G.</i>				
B., B. & C. I.	1318	631	—52%	—15%
M. & S. M.	1251	1165	—7%	—4%
O. T.	1945	1309	—33%	—1%
S. I.	1166	1207	+3%	—26%
	6681	4312	—24%	—13%

It will be noticed that the fall in output of repairs to coaching stock has been of the order of 50 per cent on the B.B. & C.I. (B.G. and M.G.) and E. I. Railways and 33 per cent on the O.T. Railway. The fall in output has led to the accumulation of heavy arrears of repairs on the railways. The approximate figures supplied by the railways would indicate that nearly 27 per cent of the stock on the B.G., and 29 per cent of the stock on the M.G., are overdue heavy repairs, the repair position being particularly bad on the B., B. & C. I., E. I. and O. T. Railways. (For details see Appendix XVIII.)

61. *Replacement of average coaching stock*.—The necessity for increasing the output of the shops is all the greater when it is realised that in March 1948, there were 2,182 B.G. and 1,595 M.G. bogie coaches over 30 years old and, therefore normally due to be replaced. 174 B.G. bogie underframes have already been received for which wooden bodies are being built in workshops. Out of the 744 B.G. bogie underframes on order, 580 are allotted to the Indian Government Railways and it is proposed to build wooden bodies on 300 of these underframes, the rest will have steel bodies. This is merely the beginning of the replacement programme and in view of the present condition of the coaching stock, this programme will have to be considerably speeded up.

62. *Additional Coaching Stock—Broad Gauge*.—It must, however, be appreciated that the heavy replacement programme which will necessarily be added to the burden on the shops, will not solve the problem of overcrowding,

for which additional coaches will have to be put on the line. We must form some estimate of the number of additional coaches required to carry the present traffic without serious overcrowding. Substantial addition to stock would be necessary, throwing further heavy burden on the mechanical workshops.

In discussing possible improvements in the utilisation of coaching stock on the Indian Government Railways (excluding the B.A. and N.W. Railways), we had estimated that the number of vehicle miles per vehicle day was capable of being increased to the average figure of 192 for the B.G. Railways (paragraph 57). We have, therefore, assumed this standard of utilisation in calculating the future requirements of stock. For this purpose, it is necessary to ascertain when overcrowding assumed sufficiently serious proportions to attract criticism. It is relevant to repeat the following remarks from the Administration Reports—Vol. I, 1941-42 and 1942-43.

1941-42.—“With public co-operation, railways have been able to make a fuller use of train services.”

1942-43.—“Despite the extensive propaganda undertaken to discourage travel, there was considerable overcrowding.”

It can, therefore, be concluded that overcrowding began some time in 1942-43. The occupation ratio, which can be expressed by the percentage ratio of passenger miles to seat miles per day, was 38 in 1941-42, and this had risen to 52 in 1942-43. We know that the latter ratio resulted in “considerable overcrowding” and we should, therefore, aim at a ratio below 50 per cent to avoid serious overcrowding. Any reduction in the occupation ratio on existing traffic can only take place by increasing the number of seats with the addition of coaches to our rolling stock. We reckon that if the number of 471,607 seats is increased by 25 per cent to carry the passenger traffic of 1946-47, which was 53,850,730 passenger miles per day, we would reduce the occupation ratio to 48 per cent with vehicle miles per vehicle day improved to 192. (For details see Appendix XIX.) This occupation ratio will not cause serious overcrowding. It is most important to note that addition to coaching stock without securing further reasonable improvement in its utilisation will be an extravagant method of eliminating overcrowding. If no further improvement, such as is suggested, was to be secured, then the number of seats would have to be increased by 50 per cent to carry the traffic of 1946-47 without overcrowding instead of 25 per cent, which is recommended with improved utilisation.

63. *Additional Coaching Stock—Metre Gauge.*—The average number of vehicle miles per vehicle day for the four M.G. Railways (B.B. & C.I., M.S.M., O.T. and S.I.) was 114 miles for the year 1946-47, the number of seats 219,641 and passenger miles per day 21,748,249. As we have seen in paragraph 57, there is room for improvement in vehicle utilisation on the M.G. Railways also and it will not be unreasonable to expect an improvement in the average from 114 to 130 miles per day. The occupation ratio in 1942-43 was 58 per cent and in 1941-42 45 per cent, and it mounted up to 79 per cent in 1946-47. If the number of seats in 1946-47 is increased by 50 per cent and the average vehicle miles per vehicle day to 130 miles, the occupation ratio to carry the traffic of 1946-47 would come down to about 50 per cent. (For details see Appendix XIX.) This ratio would not result in serious overcrowding. The number of seats thus will have to be increased on the four M.G. Railways, *viz.*, B.B. & C.I., M.S.M., O.T. and S.I., by 109,821.

The problem of overcrowding demands urgent solution which will necessitate on the Indian Government Railways, excluding the E. P. and Assam Railways, the addition of at least 1,179 B.G. and 1,404 M.G. bogie coaches. This makes no provision for the future increase in traffic.

64. *Mechanical Workshop—Capacity for Body Building and Repairs to Coaching Stock.*—To sum up, the Mechanical Workshops of the railways have not only to contend against the accumulation of arrears of

P.O.Hs. amounting to 29 per cent of the stock on the M.G., and 27 per cent of the stock on the B.G., but have also to bear a part of the burden of building bodies for replacement programme, which involves roughly 25 per cent of the total stock. In addition, to remove the serious complaint of overcrowding, bodies will have to be built for roughly 25 per cent. additional B.G., stock and 50 per cent additional M.G., stock. It has not been possible to obtain dependable figures of the workshop building capacity but the figures available show that the building capacity in terms of four-wheelers on the B.G., is 716—roughly 7 per cent of the total stock—and on the M.G., is 326—about 5 per cent of the total stock. It will thus be seen that the building capacity is utterly inadequate to meet even a part of the demand for replacement and capital programme and, therefore, it will be absolutely essential to create new building capacity for the coaching stock. The necessity for this is all the greater when it is appreciated that we have made no provision for any increase in passenger traffic and even our estimates of coaching stock to deal with the present traffic are on a most conservative basis and are likely to be exceeded to meet actual requirements. Obviously the need for additional capacity for passenger coach building creates an urgent problem. The Railway Board fully appreciate the position and have had already tapped indigenous sources to meet part of the railway requirements for body building. We understand that other sources when fully developed, will be able to produce 1,000 passenger vehicles per year. Our immediate requirements for passenger coach building on conservative basis are about 6,420 passenger bogie vehicles. The Railway Board are, therefore, rightly planning to set up either one or two central workshops in the country for the construction of coaching stock and are negotiating with firms abroad, who specialise in the work, for their assistance. We have no doubt that the development of such additional sources for coach building is a matter of urgent necessity not only to remove the discomfort of overcrowding but also to stop the loss of enormous railway revenues due to ticketless travel which can only be substantially reduced if overcrowding is eliminated sufficiently to permit of effective ticket checking. We wish to emphasize that from the point of view of adding substantially to the revenues of the railways, top priority should be given to the setting up of central workshops for the construction of the coaching stock. In the meantime, every effort should be made to obtain the maximum output from the existing indigenous sources for supplementing the coach building programme.

65. *Steel Coaches.*—We are much concerned with one aspect of the body building programme. If steel or composite metal bodies are adopted as standard for the coaching stock on Indian Railways, we consider it most important to ensure that conditions of travelling in those coaches in the hot weather are not worsened as compared with those of travelling in coaches with wooden bodies. We understand that experiments with various types of insulating materials will be made on the new coaching stock to decide upon the most satisfactory method of insulation and we suggest that temperature tests in the experimental stock should be carried out in the hottest part of the country in the months of May and June with a view to reach satisfactory conclusions.

66. *Relation of Coach Design to Safety.*—We feel that insufficient consideration has in the past been given to the question of the effect of carriage design on the casualty roll in case of serious accident. In European countries and in America a great deal of thought has been devoted to this subject and steps have been taken to produce coaching stock much less liable to complete destruction in a serious accident than was stock built in earlier years.

The very high death roll in certain Indian Railway accidents—e.g., Bihta on the E. I. Railway in 1937, and Borgaon on the G.I.P. Railway in 1943, to mention only two—show that present Indian Railway stock is very unsatisfactory in this respect. Once the underframe of one carriage overrides the underframe of the next, the present wooden bodies offer very

little resistance to telescoping. Also, the present side buffers easily get out of alignment in case of collision or derailment and there is then nothing to prevent carriage underframes from over-riding one another.

If a serious accident occurs, resulting in a train travelling at high speed being brought to a standstill in a few yards, nothing can prevent injury altogether. The forces involved are so enormous that something has got to give; but casualties will be minimised if telescoping, resulting in the complete destruction of coaches, can be avoided.

Experience in other countries has shown that the use of steel coach bodies, especially if the ends are suitably reinforced, greatly reduces casualties. The ends of steel coaches may be damaged, or even forced in a few feet, but the bodies are rarely destroyed. Their behaviour, relative to that of wooden coach bodies, may be compared to a tin and a wooden box. If pressure is applied to a tin it dents or bends. A wooden box cannot dent or bend, but if the pressure is sufficient, the box collapses completely. We feel, therefore, that the decision to introduce steel coaches on Indian Railways on a large scale is to be commended on grounds of improved safety, irrespective of other considerations.

Another feature which, it has been shown, helps to minimise damage and casualties in accidents is the central coupler. As we have said above, the usual side buffers, as used on Indian Railways, are of little use to prevent underframes getting out of alignment in case of accident. Central couplers have, however, proved highly resistant in this respect and have retained coaches in approximate alignment even when one or more coaches have over-turned.

We believe that several years ago, the general adoption of central couplers in India was proposed, on other grounds, but the proposal was given up on the score of expense. We consider that the decision to build new stock to a width of 11' 8" affords an excellent opportunity to introduce the central coupler in this new and wider stock. For various reasons, mixtures of 10' and 11' 8" stock in the same train formation will be undesirable. The 11' 8" stock will therefore generally operate in complete rakes. This will greatly reduce, though it will not entirely eliminate, the problem of providing methods to enable central-coupler stock to be coupled up to side-buffer stock. This question will, however, arise in the case of passenger or parcel trains where other coaching vehicles, such as motor car vans or parcels vans, or goods vehicles, may require to be attached in rear of the passenger coaches. This, we suggest, may be met by building the new 11' 8" brake vans, or third class and brake vans, with equipment to enable side buffer stock to be attached to them, in addition to the central couplers. This, we realise, increases weight, as the whole coach has to be designed to take buffing stresses in three vertical planes instead of one: but if it is confined to the vehicles we suggest, which normally travel at the ends of trains, the percentage increase in the total weight of the rake should be unimportant.

We have raised this question of the introduction of the central coupler on grounds of reducing the death roll in accidents. Central couplers have other advantages, not the least of which is the reduced risk of accident to staff, as it obviates the necessity for men to go between carriages in order to couple up.

The objection may be raised that central couplers are at present proprietary articles and chiefly produced in the United States. The patents on the subject would need to be examined: it might be possible to produce an I.R.S. design: it should certainly be possible to arrange to manufacture an already registered design under licence. But otherwise there should be no difficulty in producing these couplers in India, at any rate when increased steel foundry capacity is available.

**F. Wagon Stock and its Repairs—In Shops**

67. *Stock of wagons.*—The average number of wagons on the Indian Government Railways (excluding the B.A. and N. W. Railways) were as follows :—

Table 9.—Average number of wagons.

Railways	1938-39	1947-48	Percentage of 1938-39
<i>Broad Gauge</i>			
B. N.	22026	21932	99.6
B, B. & C I.	8829	10831	122.7
E. I.	48967	61001	124.6
G. I. P.	16208	25822	159.3
M. S. M.	6657	7346	110.4
S. I.	2226	2810	126.1
Total	104,916	129,742	123.7
<i>Metre Gauge</i>			
B & B. & C I	10,070	8,773	87.1
M.S.M.	6,756	6,719	99.5
O. T.	14,835	13,984	94.3
S. I.	6,616	6,421	97.1
Total	38,277	35,897	93.8

Compared to 1938-39, there has been an increase of 23.7 per cent in the B.G. stock and a decrease of 6.2 per cent in the M.G. wagon stock.

68. *Availability of wagons.*—The percentage of wagons under or awaiting repairs on the railways has been steadily rising both on the B.G. and on the M.G. In 1938-39 the percentage under or awaiting repairs on the B.G. was 4.92 per cent of the stock and this has increased to 6.73 in 1947-48 or an increase of 37 per cent. On the M.G. the percentage has risen from 2.90 to 6.18 during the same period, i.e., an increase of 113 per cent. The position has greatly worsened on the B.B. & C.I., B.G. and M.G. sections and on the E. I. Railway, where the percentages have risen to about 9 per cent. There has been a general deterioration on the M.G. Railways with the exception of the O. T. Railway. (See Appendix XXII). If the lowest percentages during the last 10 years were taken for each railway and operated on, 5014 additional wagons on the B.G. and 1255 on the M.G. would become available for traffic.

The number of days wagons are in shops for repairs has also been rising and has gone up by about 20 per cent in 1947-48 as compared with 1938-39. (See Appendix XXIII). If the number of days were reduced to the minimum of the last 10 years on each railway, 3,300 B.G. wagons and 480 M.G. wagons would become available for additional traffic. These figures for extra wagons are included in the conclusions given above in this paragraph.

69. *Mechanical Workshops—Wagon Repairs.*—On the B.G. (Indian Government Railways, excluding B.A. and N.W. Railways), there has been a reduction of 24 per cent in the output of wagon repairs in 1947-48, as compared with 1938-39; the number of wagons repaired in terms of 4-wheelers, was reduced from 50,207 to 38,397 (see Appendix XX), in spite of an increase in stock of 24 per cent (see paragraph 67). On the M.G. there has been a reduction of 13 per cent in the output of repairs against 6 per cent reduction in the total stock. Railways that have



contributed to the fall in output can be noted from the following statement:—

*Table 10. Wagon Stock & Repairs (1947-48)*

*(In terms of 4-wheelers).*

Railways	Goods Stock percent- age of 1938-39	Wagon Repairs out- put percentage of 1938-39
<hr/>		
<i>B. G.</i>		
B. N. . . . .	100	83
B. B. & C. I. . . . .	123	87
E. I. . . . .	125	55
G. I. P. . . . .	159	114
M. S. M. . . . .	110	119
S. I. . . . .	126	142
 <i>M. G.</i>		
B. B. & C. I. . . . .	87	87
M. S. M. . . . .	99	75
O. T. . . . .	94	90
S. I. . . . .	97	96

The worst position is on the E. I. Railway, where the output in 1947-48 as compared with 1938-39 has gone down by 45 per cent in spite of the 25 per cent increase in stock. The M.S.M. (M.G.) and the B.N., B.B. & C.I. and G.I.P. Railways on the B.G., also show substantial decreases in output, considering the increase in stock on the two latter railways.

The reduction in the output of repairs has naturally led to heavy arrears of maintenance and from the figures supplied, it appears that 27,060 wagons or 21 per cent of the stock on the B.G. and 4,749 wagons or 22 per cent of the stock on the M.G. are overdue periodical overhaul.

70. *Mechanical Workshops—Capacity for Periodical Overhaul to Wagons.*—The capacity of workshops, as judged by the best performance of each workshop during the past 10 years, indicates that the output of 1947-48 on the B.G. and M.G., would require to be stepped up by about 47 per cent to reach capacity. (See Appendix XXI).

71. *Stock for Replacement.*—Only a small percentage of the B.G. goods stock and about 20 per cent of the M.G. stock is requiring replacement, and yet the maintenance position of goods stock is unsatisfactory. The analysis made in paragraph 68, indicates that heavy arrears are accumulating owing to the failure of the Mechanical Workshops to give satisfactory output.

### C. Mechanical Workshops—Organisation and Layout

72. *Utilisation of Manpower in Mechanical Workshops.*—We have ascertained the extent of the heavy fall in the output from the railway mechanical workshops in 1947-48 as compared with 1938-39 but the relationship between the output and the staff employed has not so far been considered to give some idea of the relative efficiency of the workmen. In the following Table 11, the total number of skilled, semi-skilled and un-

skilled staff employed in the workshops in the year 1938-39 and 1947-48 and the output of locomotives in terms of standard unit repair to locomotives are given:—

Table 11.—Locomotives Standard First Class Unit Repair & Staff employed in the Locomotive Workshops during 1938-39 and 1947-48

Railways	Standard Unit Repairs (per annum)		Skilled, Semi-skilled and Unskilled staff		Skilled and Semi-skilled staff.	
	1938-39	1947-48	1938-39	1947-48	1938-39	1947-48
1	2		3		4	
B. N.	314.6	304.4	3968	4995	2668	3292
B. B. & C. I. (B. G.)	125.9	125.4	1660	3234	1056	2301
B. B. & C. I. (M. G.)	104.4	68.5	3305	3781	2539	2869
E. I.	527.3	398.7	9461	13615	7887	10397
G. I. P.	299.4	348.2	3669	6751	2624	4551
M. S. M. (B. G.)	126.0	157.6	2770	3595	1838	2339
M. S. M. (M. G.)	71.6	83.8	1181	1373	831	891
O. T.	79.3	58.4	1838	2791	1476	2021
S. I. (B. G.)	52.8	50.8	2120	2204	1689	1857
S. I. (M. G.)	91.3	77.0				
Total	1792.7	1672.8	29972	42339	22608	30518
Percentage		-7%		+41%		+35%

Table 11—Continued.

Railways	Skilled, Semiskilled and Unskilled staff per standard unit of repair.		Skilled & Semi skilled staff per standard unit of repair.		Surplus staff on basis of output of 1938-39	
	1938-39	1947-48	1938-39	1947-48	Categories Col. 3.	Categories Col. 4.
	5	6			7	8
B. N.	13	16	8	11	1156	717
B. B. & C. I.	13	26	8	18	1581	1249
B. B. & C. I. (M. G.)	31	55	24	42	1613	1203
E. I.	18	34	15	26	6461	4434
G. I. P.	12	19	9	13	2484	1499
M. S. M. (B. G.)	22	23	15	15	130	40
M. S. M. (M. G.)	16	16	12	11	8 Req.	82 R. q.
O. T.	23	48	19	35	1437	934
S. I.	15	17	12	15	325	360
Total	16.7	25.3	12.6	18.2	15179	10354
Percentage		+52%		+44%	+36%	+34%

N. B.—Columns 5 and 6 give the number of men required throughout the year per standard unit repair.

This statement discloses the following:—

- (i) decrease in standard unit repair of locomotives in 1947-48 as compared with 1938-39 . . . . . -7%
- (ii) increase in skilled, semi-skilled and unskilled staff in 1947-48 over 1938-39 . . . . . +41%
- (iii) increase in skilled and semi-skilled staff in 1947-48 over 1938-39, . . . . . +35%
- (iv) skilled, semi-skilled and unskilled staff as surplus in 1947-48 on the basis of the performance of 1938-39. . . . . 36%

It is clear from the analysis that although the output decreased by 7 per cent in 1947-48 as compared with 1938-39, the number of skilled, semi-skilled and unskilled staff has increased enormously, i.e. by 41 per cent., with the result that the average number of skilled, semi-skilled and unskilled men per standard unit repair has increased from 16.7 in 1938-39 to 25.3 men in 1947-48 and if we exclude the number of unskilled men, the number of skilled and semi-skilled men increased from 12.6 men per standard unit repair to 18.2 in 1947-48. The percentage of skilled, semi-skilled and unskilled staff as surplus in 1947-48 on the basis of the performance in 1938-39 is 36 per cent. The percentage of unskilled staff as surplus on this basis is 41 per cent and the percentage of skilled and semi-skilled staff as surplus is 34 per cent. The surplus skilled and semi-skilled staff on this basis is 10,354 and unskilled is 4,825.

It will be further seen that deterioration in output per man including unskilled labour has been 52 per cent on the O.T., 46 per cent on the B.B. & C.I. and E.I., and 37 per cent on the G.I.P.

This estimate of the surplus staff and the deterioration in output per man has, however, to be modified in the light of special circumstances which prevailed in 1947-48 and restricted the output of the railway workshops. We have it in evidence that lack of spare parts and of their timely supply retarded output of the Workshops. The labour engaged in the manufacture of spare parts has also been included in the number of staff employed in the Locomotive Shops and as the number of spare parts manufactured in 1947-48 had increased, more men had to be employed. The abolition of overtime since 1945-46, liberalisation of leave rules, time lost by workmen in the Shops as a result of disturbed conditions in the country, increased absenteeism, etc., were other factors which led to an increase in the number of men per standard unit repairs in 1947-48 as compared with 1938-39. Our estimate of surplus labour should, therefore, be reduced taking all these factors into consideration. But even if this were done, we feel that the number of surplus labour on a straight comparison with the performance of 1938-39 is so large that there is a *prima facie* case pointing to the existence of surplus labour in the shops. This, however, cannot be confirmed or substantiated without a careful job analysis and without taking into consideration the present quantum of work in the various shops and the arrears of maintenance. We recommend that this should be done early.

We have made a comparison in Table 12 of the total number of skilled, semi-skilled and unskilled staff employed in the carriage and wagon workshops of the various railways in the years 1938-39 and 1947-48 in relation to the output of repairs of carriage and wagon stock in terms of 4-wheelers.

Table 12. *Outturn of Carriages & Wagons in terms of 4-Wheeler and staff employed in the Carriage and Wagon Workshops during 1938-39 and 1947-48.*

Railways	Output of Carriages.		Output of wagons		Skilled, Semi-skilled & Unskilled staff		Skilled & semi-skilled staff.	
	1938-39	1947-48	1938-39	1947-48	1938-39	1947-48	1938-39	1947-48
1	2	3	4	5	6	7	8	9
B. N.	1,537	1,695	11,182	9,229	3,261	3,694	2,159	2,471
B. B. & C. I.	1,198	637	3,792	3,287	2,740	4,363	1,807	2,944
E. I.	6,821	3,137	24,745	13,562	9,511	11,061	8,257	8,297
G. I. P.	2,318	1,985	6,581	7,479	4,026	6,901	2,884	4,857
M.S.M.	934	954	3,156	3,771	2,217	3,157	1,853	2,331
S. I.	400	373	751	1,069	1,554	3,139	1,238	26,12

B. G.

<i>M. G.</i>								
B. B. & C. I.	1,318	631	2,605	2,271	3,229	4,157	2,279	2,836
M. S. M.	1,251	1,165	2,483	1,873	1,109	1,434	780	931
O. T.	1,945	1,309	3,872	3,503	1,456	2,658	1,169	2,004
S. I.	1,166	1,207	2,246	2,156				
Total	18,888	13,093	61,412	48,200	29,103	40,564	22,426	29,283
						+39%		+31%

Table 12—Continued.

Total Railways	Skilled, Semi-skilled and Un-skilled staff per 4 wheeler unit		Skilled & Semi-skilled staff per 4 wheeler unit (Carr. & Wagon)		Surplus staff on basis of output of 1938-39	
	1938-39	1947-48	1938-39	1947-48	Categories (Col. 4)	Categories (Col. 5)
<i>B. G.</i>						
B. N.	0.26	0.34	0.17	0.23	894	617
B. B. & C. I.	0.55	1.11	0.36	0.75	2208	1523
E. I.	0.30	0.66	0.26	0.50	6030	3929
G. I. P.	0.45	0.73	0.32	0.51	2619	1790
M.S.M.	0.54	0.67	0.45	0.49	596	190
S.I.	0.34	0.65	0.27	0.54	1502	1308
<i>M. G.</i>						
B B & C I	0.82	1.43	0.58	0.98	1768	1150
M.S.M.	0.30	0.47	0.21	0.31	532	296
O. T.	0.25	0.55	0.20	0.42	1454	1037
S. I.	..	..	..	..	..	..
Total Percentage	0.36	0.66 +83%	0.28	0.48 +71%	17603	11840

*N. B.* Columns 6 and 7 give the number of men required throughout the year per 4-wheeler unit repairs.

The statement leads to the following conclusions:—

- (i) decrease per 4-wheeler unit repair of carriages and wagons (combined) in 1947-48 as compared with 1938-39 . . . . . -24%
- (ii) increase in skilled, semi-skilled and unskilled staff in 1947-48 over 1938-39 . . . . . +39%
- (iii) increase in skilled and semi-skilled and staff in 1947-48 over 1938-39 . . . . . +31%
- and (iv) skilled, semi-skilled and unskilled staff as surplus in 1947-48 on the basis of the performance of 1938-39 . . . . . +43%

It is thus clear that the output of repairs to carriages and wagons decreased from 80,300 to 61,293, i.e. by about 24 per cent. during 1947-48 when compared with the output of 1938-39, whereas the staff in skilled, semi-skilled and unskilled categories has increased from 29,103 to 40,564, i.e. by about 39 per cent with the result that the average number of skilled, semi-skilled and unskilled men per 4-wheeler unit repair (carriages and wagons combined) has increased from 0.36 in 1938-39 to 0.66 in 1947-48.

The percentage of skilled, semi-skilled and unskilled staff as surplus in 1947-48 on the basis of performance in 1938-39 is 43 per cent and the percentage of unskilled staff as surplus on the same basis is 51 per cent. The surplus skilled and semi-skilled staff on the basis of performance in 1938-39 is 11,840 and unskilled staff 5,763.

These figures would also have to be suitably modified taking all those factors into consideration, which have been mentioned in connection with the surplus Locomotive Workshop staff. These comparisons and conclusions are further vitiated as we have taken a 4-wheeler as a standard of unit repairs. The work of repairs in a 4-wheeler both in coaching and goods stock was much heavier in 1947-48 as compared with 1938-39. We have it in evidence that repairs to coaching stock at the present time mostly amount to almost rebuilding the whole body which was not the case in 1938-39. This would require the employment of more men for repairs per 4-wheeler wagon or coach in 1947-48, as compared with 1938-39. For these and other reasons, all that these comparisons establish is the urgent necessity for a careful job analysis to ascertain the extent of the surplus staff taking into consideration the present quantum of work and arrears of maintenance. This, we have already recommended, should be done early.

*73. General Review of work in Workshops.*—We consider the situation in respect of the repairs and maintenance of rolling stock as disclosed by the analysis in the foregoing paragraphs as generally unsatisfactory and on some of the railways even grave in some respects. It is obvious that unless effective action is taken to rectify and improve the position, the situation might deteriorate further with serious consequence to the transport position in parts of the country. We discussed the problem fully with the administrations of each Railway and with the technical officers responsible for the repairs and maintenance of the rolling stock. We are glad to testify that some of these officers showed a commendable perception of the gravity and nature of the problems facing them and consequently they had prepared plans to tackle the situation boldly in a spirit of robust optimism but unfortunately we met also a few others who gave us an impression of defeatism and showed mental lethargy in their approach to these problems. They have some vague plans to improve efficiency but their chief hope lies in some adventitious happening to work the miracle of increased output. They see, 'efficiency' going down, output deteriorating, expenditure rising and the condition of rolling stock going from bad to worse. They are too prone to ascribe these ills to the inefficiency of labour, defective rules and regulations, lack of materials and other similar factors. We fully appreciate the vital importance of these and other factors in substantially influencing output from the workshops but we totally disagree that improvement in output and work in the mechanical workshops is either completely circumscribed by these factors or that these factors in themselves, are not capable of improvement under competent technical and executive control. Therefore, while not underrating the effect of these factors on production, we hold the view that on Railways where repair position has been steadily deteriorating or has shown no improvement, it is the human factor in direction and management of shops which has failed and is chiefly responsible for the present deplorable situation, as this factor alone could have retrieved the situation to a great extent in spite of the present formidable handicaps.

In fairness, however, to those responsible for the difficult task of repairs and maintenance of the rolling stock, we consider in the following paragraphs those important factors which influence production, assess their adverse effects on output and suggest ways and means of effecting improvement.

*74. The Layout of the Mechanical Workshops.*—The layout and equipment in the shops, although capable of improvement and modernisation, cannot be considered unsatisfactory on the Indian Railways except for the B.B. & C.I. shops at Ajmer and to some extent, for the B.B. & C.I. Carriage Shops at Lower Parel. The construction of the new shops at Ajmer should receive high priority. The remodelling of the shops at Lower Parel has been sanctioned and the work should be completed early. There are other relatively minor schemes of additions and alterations to shops on other railways which are designed to remove existing bottlenecks in production or which are demonstratively put forward to remove obsolescence. Such schemes should be sanctioned without undue delay.

**75. Belt System.**—We were impressed with the working of the Belt System and its potentialities on the B. N. Railway at the Khargpur Shops. These shops were not originally designed for this system, but the lay out of the shops has been gradually adapted to work to this system. This was first introduced in Crew Works of the London, Midland and Scottish Railway after the first World War. The radical advantages claimed for the introduction of such a system were fully borne out as it made it possible to give a locomotive a complete periodical overhaul in six days as against a period of 30 to 40 days required previously. The scheduled time for the periodical overhaul of a locomotive in the Khargpur Workshops is eighteen days. The schedule is not at present adhered to and the average time an engine is detained in shops for periodical overhaul was 30 days in 1946-47 against the average of 51 days for all railways. It is most significant that this time is less and has been less on the B. N. Railway than on any other railway in India, and we feel convinced that the schedule time of 18 days can be worked to and possibly even bettered chiefly because of the "Belt System" working. If other railways were to take 18 days in giving periodical overhaul to their locomotives, the result would be an addition of 60 Broad Gauge and 13 Metre Gauge locomotives available for traffic.

In view of the results so far achieved, and the greater potentialities of the system, we recommend that early opportunity should be taken to extend the "Belt System" to other railways. We are aware that such a system in its entirety cannot be introduced without major reconstruction and remodelling of the existing workshops, but what we suggest is that this aim should be kept in view not only when a new workshop is being planned and constructed but also when major reconstruction of existing workshops is undertaken. We further recommend that certain principles of organisation behind the Belt System, which divide and sub-divide the work of repairs and maintenance so rationally that any lag in the schedule output is easily detected, should be applied as far as possible to the repair work in the other mechanical workshops. In shops which are congested due to lack of space, this will be difficult to achieve but congestion provides urgent reason why some such method should not be introduced to achieve effective supervision.

**76. Machinery and Equipment.**—There was a general complaint from all the railways that essential machinery and equipment on capital and replacement account were not being delivered at the rate desired. The Committee agree that the complaint is justified. Having regard to the world shortage of machinery such as is required on the railways, we doubt if supplies could be stepped up satisfactorily if procurement is left to routine channels. We suggest that specified officers on supply mission abroad should be charged with the duty of purchasing wherever available machinery and equipment so urgently required for the Indian Railways. But we cannot accept the present delays in the supply of equipment, serious as they are, as an adequate excuse for the present low output and high labour costs.

**77. Labour**—The efficiency of a workshop chiefly depends on the level of production of its labour. The pre-war standards of production in the mechanical workshops of railways were neither high nor satisfactory enough as compared with the standards prevailing in the Western countries or even as compared with the best achievements of railways in India. We discussed the matter fully with the Officers-in-charge of the mechanical workshops and they were unanimous in their views that the workmen at present were doing much less than a day's work for a day's wage and as compared with the prewar period, their efficiency has gone down most markedly. The view prevailed that the work the men were doing was equivalent to  $2\frac{1}{2}$  hours to 4 hours work a day. We are aware that on an average working day of 8 hours men are not working hard the whole time, and we think that roughly 2 hours are wasted by them; but they should put in solid work for at least 6 hours in a day. It would thus appear that they are at present working only about 50 per cent of the time they

should, and if they were to work 6 hours a day, the individual output would increase by about 100 per cent.

In paragraph 72 we have already discussed the question of staff surplus to requirements in mechanical workshops. We have recommended careful job analysis to be made to ascertain the exact extent of this surplus; taking into consideration the present quantum of work and arrears of maintenance.

We are, however, convinced that the situation can never become healthy until the surplus staff as disclosed by the investigation which we recommend are removed from the shops or transferred to other categories where there may be a shortage. This need not necessitate throwing any men out of employment altogether. The requirements of extra staff to implement the Adjudicator's Award are so large that the surplus in the shops can easily be absorbed. But such absorption necessitates transfers, which must be ordered by the railway administrations concerned if retrenchment is to be avoided. This would strictly be in accord with the present understanding between the All-India Railwaymen's Federation and the Railway Board, as we understand that according to this agreement, protection against retrenchment of the railway staff is not operative if the staff decline transfers or alternative appointment. In this connection it may be necessary to give practical training to suitable men for alternative appointments.

Ibcon, a firm of industrial business consultants, is under contract with the Railway Board to carry out a time study in the locomotive workshops at Kharipur, B. N. Railway, and at Jamalpur, E. I. Railway. The firm had submitted interim reports and as a result of their "time study of work" they conclude that labour utilization was about 50 per cent and that there is surplus of labour available in both the workshops for present and potential output. It must be appreciated that surplus labour is a necessary consequence of low labour utilization in any factory. Our workshop analysis in the foregoing pages and our own observation lead us to conclude that the efficiency of labour has gone down by about 33 per cent to 40 per cent on the average as compared with the achievements in the past. Whether the efficiency has gone down by 33 per cent or 50 per cent., there is no gainsaying the fact that labour is not at present doing a fair day's work for a day's wage. This has increased the accumulation of heavy arrears of maintenance in the railway workshops and has consequently created an unsatisfactory situation in regard to adequate rail transport in the country. Unless improvement takes place in labour's output in the workshops, the situation would deteriorate progressively affecting rail transport. The problem is, therefore, of utmost importance and urgency. We have given a good deal of thought to it and had occasion to discuss it with a number of experienced railway officers. Some of them had mentioned the beginning of a change for the better in the attitude of the workmen but we have to confess that there have been no corresponding material results. These officers ascribe labour inefficiency to labour apathy, fear of retrenchment, lack of discipline, inexperienced and incompetent supervisory staff, defective disciplinary rules and the effect of general economic stress in the country. To these causes has been added the dilution of labour as a result of Partition. There is truth in what they say but we have to go deeper into these causes and suggest remedies to improve efficiency and output.

In the performance of our daily tasks, we are consciously or unconsciously actuated by the "fear motive" or "profit motive" or "duty motive" or a combination of these. We will consider the circumstances in which these motives operate at the present time so far as labour in workshops is concerned.

The "fear motive" for workmen in workshops operates through disciplinary rules and regulations. It was the unanimous view of the officers of the Mechanical Department expressed to the Committee that there has been a serious deterioration in the discipline amongst the workers in the shops. This, they stated, has chiefly resulted from the introduction of

the Payment of Wages Act and defective rules and regulations. It was represented to us that the Payment of Wages Act has rendered extremely difficult the infliction of the penalties of fine and reduction, the recovery of loss to the railway and to a lesser extent the withholding of increment. Generally speaking, monetary penalties should be capable of adjustment to meet the necessities of each case. Any punishment to be effective should be swift and tangible. This is all the more necessary in a workshop where men may be caught redhanded idling away their time or transgressing rules and regulations, but is not possible under the present circumstances as supervisors have very little powers and even a minor punishment cannot be inflicted without procedural delays. We feel that this requires to be remedied and recommend that supervisors should be entrusted with the power to inflict prompt punishment for minor offences subject to review afterwards if so desired by the party affected. We deal with this subject in paragraph 187, Chapter X.

Another motive actuating the workmen is the "profit motive". Profit sharing is one of the methods adopted in industry to step up output but it cannot be said that this method has proved an unqualified success or has achieved the object in view. In any case, its applicability to the railways is almost impractical.

Much more important than these is to secure to the employees in a public utility undertaking like the Indian Railways, a living wage, reasonable avenues of promotion, modern amenities of life such as housing, medical attention, educational facilities for children, recreation facilities, etc. The implementation of the Pay Commission's recommendations should go a long way to meet the demands of the railway employees. The other important matter is the provision of housing facilities. We strongly feel that a very liberal programme should be followed for the construction of houses for the workshop staff. At present only about 20 per cent of the workshop staff is housed. We are convinced that housing the majority of the workshop staff should have a beneficial and stabilizing influence on labour. We are aware that the cost of construction of buildings is unduly high and building materials are in short supply and these conditions would naturally restrict schemes for the housing programme. Notwithstanding these adverse factors, we feel that more can be done in this direction than is being done at the present time.

In regard to the avenues of promotion, we recommend the establishment of training facilities for the ambitious type of workmen who should be given intensive training to fit themselves for promotion. These facilities should be provided for workmen in each mechanical shop and promotion should be based on merit and seniority.

In future when a common Indian language is adopted for this country as the *Lingua Franca*, illiteracy in English should not form a bar to promoting skilled workmen to supervisory posts provided such staff make themselves adequately proficient in the *Lingua Franca* which would then be the alternative language for recording their work and instructions.

We also feel that a good deal of friction and discontentment is caused by the delay in settling minor grievances of staff. Any simple machinery which is created to deal with these grievances speedily will be welcomed and appreciated by the staff. The grievances we have in view are those relating to the issue of passes, sanction to leave application, payment of dues, etc.

We consider that we can stimulate and satisfy the "profit motive" amongst the staff if action is taken on the above lines.

Lastly we come to the "duty motive" which, in our view, carries the utmost importance at the present time. India is passing through critical times and even a partial failure of transport would lead to an incalculable disaster. Every employee on the railways has to feel that at the present juncture he owes it to the country to put forth his best effort in the performance of his duties. We are glad to acknowledge that on some railways we were told that there was a welcome change in the attitude of



the workmen to their responsibilities but this change has neither been general nor has been sustained. We are aware that this problem is not exclusive to the railways but it affects every industry in the country. In modern times, propaganda has proved to be the strongest weapon which Governments have wielded to propagate their views and to secure adherence to their policies. Increased output from every railway mechanical shop is as vital if not more than from other industries of the country. The leaders of the nation have to give a lead to the country in the matter and as India now claims a National Government, the members of Government—not only of the Central Government but also of the Provincial Governments—should impress by public speeches and other equally effective means upon labour the new responsibility which has devolved on them. Leaders of public opinion, independent, of Government should also do likewise. The propaganda must be conducted intensively and on an India-wide basis. Propaganda has achieved its objective in other countries and for this we have the example of increased production in coal mines in England. We agree that, as in England, propaganda alone will not bring about improved results and something more is needed. We were repeatedly told of the general apathy of labour to work. This does not proceed from war weariness or other such factors but in our view is chiefly ascribable to economic conditions in the country. Prices and wages have been chasing each other in an ever-rising spiral and the necessities of life have not been easily procurable. We are aware that the Government is alive to the seriousness of this problem, but what we wish to emphasise is that unless prices are reasonably stabilized and bare necessities of life made available, no Government propaganda or public or departmental exhortation will secure increased production. No doubt the cheap grain shops have placed railway employees in an advantageous position but they are still subject to the general economic stress although to a lesser degree. The sooner the Government of India take energetic action in controlling and stabilizing prices and making consumer goods available, the quicker will be the reaction on labour in increasing production.

It has to be appreciated that the majority of the labour in the workshops is illiterate and we cannot expect a high sense of duty from them. If production from railway mechanical shops has to be increased to be comparable with that from other countries, making allowances for local conditions, then the Government should provide educational facilities for illiterate railway workers.

Even literate people require wise and responsible leadership and much more so, the illiterate staff in the workshops. Railway Administrations should welcome and encourage healthy trade unionism and be easily accessible to the leaders and representatives of such Unions. We are aware that this is the policy generally adopted but we wish to see a more intimate contact and mutual trust and confidence between the railways and the trade union executives than is prevailing at the present time. It should be possible to settle many a dispute by mutual goodwill and forbearance before it assumes serious proportions and in any case a large number of petty grievances which often in their cumulative effect embitter relations with labour could be easily disposed of by more intimate contact with labour. In this, good deal of responsibility rests on the shoulders of labour leaders. They must be actuated by the highest of motives and be anxious to work amicably with the railway management without sacrificing vital interests of the men they represent. This type of labour leadership has not always been forthcoming with the result that men have not always been guided on the right lines. This problem deserves serious consideration of the influential leaders of labour in the country. We were told that disruptive elements are fermenting unrest amongst labour in every important workshop on imaginery and false grounds and are encouraging labour to acts subversive of discipline. In this respect some workshops are affected far more than others. No substantial improvement can be expected in the output from workshops if such elements are left free to indulge in disruptive propaganda. We recommend that such elements should be ruthlessly dealt with without creating any fear of victimisation

on account of *bona fide* Trade Union activities. They must be removed so that they can no longer contaminate labour. Lastly we must stress the importance of close contact between the management in the workshops and the staff. We are aware that the technical officers and supervisors have heavy duties to perform but we feel that these duties cannot be satisfactorily performed unless they find time to come in close contact with the staff under them. Mutual trust and sympathy born of close contact will go a long way in vitalizing the human touch without which no industry can prosper.

**76. Supervision.**—The quality of supervisors in the mechanical workshop of the railways has suffered partly as a result of partition and partly owing to premature retirements of experienced staff. Railways have had to promote inexperienced staff to supervisory grades to fill vacancies created by the transfer of experienced men to Pakistan or by premature retirements. This position unfortunately cannot be remedied at once but it is suggested that suitable refresher courses should be devised for each staff. This of course cannot be a substitute for experience gained in normal service but the inexperienced staff would benefit by special instructions at least in some of their duties.

**79. Training facilities for staff.**—If the quality and quantity of output from the mechanical workshops of railways is to improve, it is absolutely essential that adequate training facilities be provided for all railways to train their staff on the right lines so that supervisors of the future could be drawn from a large body of trained mechanics. We devoted considerable attention to an examination of the training facilities which exist at the present time on various railways. With the exception of the E. I. Railway, the training facilities for the workmen in the mechanical workshops are either totally inadequate or practically non-existent on other railways. This is a sorry state of affairs and requires to be remedied urgently.

The training facilities at Jamalpur on the E. I. Railway for men recruited for the mechanical workshops, are generally satisfactory and are on right lines. There are three types of apprentices who receive training at the Technical School and they are trade apprentices, apprentice mechanics and special class apprentices.

The trade apprentices are recruited from amongst persons that have passed the Lower Primary examination. They receive training for 5 years and after successful completion of the training, they are eligible for appointment as skilled workmen. We consider that the period of this training which is for a specified trade can be reduced. Cost of training of a trade apprentice is Rs. 26-8-0 per month. This includes average stipend and dearness allowance.

The apprentice mechanics are recruited from persons with the minimum educational qualification of having passed the Matriculation or Junior Cambridge and they undergo training for 5 years. They spend three months in the Technical School alternating with six monthly periods in the shops. On successful completion of the training, they are eligible for appointment as Chagemen.

We found that no special supervisor is charged with the duty of supervising and guiding the apprentices in their work in the workshops. As they spend 2/3rds of their period of active training in the workshops, it is necessary that their progress in training in the workshops should be specially watched and intelligently controlled. The cost of training an apprentice mechanic is Rs. 152-12-0 per month.

The special class apprentices are recruited through the Public Service Commission from persons that have passed the Intermediate or Cambridge. A Certificate examination and undergo training for 6 years out of which 4 years are spent in the technical school at Jamalpur and 2 years abroad. Training on Indian Railways for two years has now been substituted for training abroad. The Government have departed from their usual practice regarding recruitment and have taken Mechanical Engineering graduates as probationers this year and the course of training

has been shortened to 29 months. While we consider that this is a move in the right direction, we would stress our opinion on the point that the recruitment and training of special class apprentices with a six year course of training which has proved so satisfactory in the past and has given such good results should not be given up. The apprentices after successful completion of their training are eligible for appointment as officers in the Mechanical Department of the Indian Railways. The total cost of training of special class apprentices for 6 years is Rs. 25,344 with two years training abroad and Rs. 13,416 with two years training on the Indian Railways. The cost of training Mechanical Engineering Graduates is Rs. 12,180. The training of the trade apprentices and the apprentice mechanics is undertaken at Jamalpur to supply the needs of the E. I. Railway only. Special class apprentices are recruited for the posts of Mechanical Engineers and they are trained at Jamalpur for all the Indian Government Railways. In view of the grave shortage of officers in the Mechanical Department of the Railways, the maximum number which can possibly be trained at Jamalpur should be recruited.

As already stated, there is an urgent need for the establishment of technical school on all railways on the lines of the school at Jamalpur for the training of the trade apprentices and apprentice mechanics. In view of the heavy expenditure involved, where it is possible for a railway to combine with another railway, there should be a joint school.

We would suggest the provision of separate facilities for elementary practical training in the use of simple implements during the first few months of the training of the apprentices. Those unskilled workmen who are ambitious to better their prospects, should be encouraged to make use of these facilities. We were impressed with the scheme and the facilities for basic training provided to their employees by the Tatas at the Basic Training Centre at Jamshedpur.

80. *Direction and Management of the Workshops.*—We fully recognise that problems connected with the workshops have multiplied enormously and that the management of the Shops has become much more onerous than it was before. We have made an appreciation of all the major factors which adversely influence output and have made recommendations with a view to securing efficiency and increasing the output. The implementation of our recommendations will, we hope, gradually produce tangible results. The problem of increasing the output from the Workshops demands, however, a quick solution. We believe that the choice of the Chief Mechanical Engineer on a railway is one of the most important factors that determine the standard of work in and the output from the Mechanical Workshops and Sheds of the railway just as the choice of the head of any other department is one of the major factors that affect its standard of efficiency of that department. We are convinced that appreciable improvements and, in some cases, remarkable improvements are possible in the output from the shops if the direction and management of the shops is of the right type. We are reinforced in our conclusions by past and present experiences. We consider that on railways where there is a persistent deterioration in the output, in the absence of labour troubles over which the head of the Mechanical Department has no control, the blame to no small extent lies on him and his senior officers. It is obvious that officers with a defeatist mentality and lacking in initiative and vigour cannot be expected to effect improvements in output. Such officers have been tolerated in the past with the result that during their tenure of office, efficiency and output have suffered markedly. Present and past experience lead us to believe that it is possible to improve the output of the mechanical workshops to the tune of 25 per cent. by able, wise and vigorous management. Strength is lent to this conclusion by the experience of the G. I. P. Railway where the maximum achievement in terms of periodical overhauls of locomotives during the past 10 years was 327 in the year 1943-44 which is about 25 per cent. more than the maximum output of 262 in 1947-48. This high output was obtained in the year when Dohad was handed over to the Defence Department and a certain number of staff and equipment were transferred from there to the Parel Shop. Most of the staff were then

working 60 hours a week instead of 48 as at present. The increased output in 1943-44 was chiefly the result of wise and vigorous management reinforced by the compelling circumstances of war which inspired all concerned to put forth their best efforts. Even the average output of 27 periodical overhauls per month in 1943-44 which was the maximum so far attained on that railway, has now been exceeded as the present output is 30 P. O. Hs. per month. The Chief Mechanical Engineer is aiming at securing this increased output steadily per month.

What has been possible on this railway is equally possible on other railways and this is borne out by recent reports of substantial improvements in output on some of the other railways, as referred to in paragraph 54. This is encouraging but none of these railways has yet exceeded its maximum performance in the last ten years. No improvement, however, can be made if officers with poor record of achievement are allowed to remain in charge of the management of the workshops. Such officers should be replaced without delay by those who possess technical ability, the qualities of leadership, a robust outlook and the will to achieve results. Our opinion is not based on what has been done on one railway. Past experience also lends strength to our conclusions. This will be borne out by a study of a graph prepared by us—Appendix XXIV. The graph shows the output from the Workshops in terms of P. O. Hs. of locomotives from 1938-39 onwards for each railway and the period a Chief Mechanical Engineer was in charge of the Mechanical Department. In many cases, though not all, it is quite clear from the graph that increased output on a railway has coincided with the tenure of office of particular officers thus showing that they were as a rule mainly responsible for the increased efficiency. The graph also shows in some cases a remarkable rise in output after the appointment of a particular officer as Chief Mechanical Engineer and a fall after his relinquishment of the office. In some cases, the output increased by 46 per cent. owing to the initiative and ability of the Chief Mechanical Engineers and their officers but the possible average increase might be taken to be round about 25 per cent. In other cases, with inefficient Chief Mechanical Engineers, the output persistently remained low and according to our view, such officers should not have been allowed to continue in office after they had shown such poor results. There are also cases where the same Chief Mechanical Engineers have done differently at different times but this does not vitiate our conclusions. The efficiency of an officer does not always remain at a uniform level and may be affected adversely owing to various circumstances, influencing his outlook and vigour.

If our conclusions are accepted, it follows that Chief Mechanical Engineers should be selected with extra care at the present time. Merit and past achievements should be the chief criterion. Officers who have shown unusual initiative, vision, technical ability and capacity and tact to extract work from others, should be chosen. Seniority and average ability may be satisfactory qualifications in normal times, but in the present circumstances, merit and merit alone should count. Whenever the Chief Mechanical Engineer and his Works Manager or Works Superintendent have been unable to improve the output and the standard of output in the light of past achievements continues to be low, they should be unhesitatingly replaced by better officers. We are convinced that by a change such as we advocate, which is not applicable to the Mechanical Department exclusively but is equally applicable to the other Departments of the railway and to the Railway Administrations as a whole, much can be achieved on all the railways, and specially on those which are showing persistent deterioration in efficiency.

81. *Appointment of Special Officer for the Mechanical Workshops.*—Standards of efficiency and performance differ considerably on different railways. Proper planning and progressing arrangements are essential to secure economy and increase in output in the workshops and this is fully appreciated by the railways in India, but the efficiency of these operations varies considerably with unfortunate results for those railways which are

not progressive in implementing their ideas in this respect. **Effective technical action is called for to prevent further deterioration and a start has to be made to improve the present position.**

We feel that in the first instance, utmost advantage should be taken of the methods and practices in the way of planning, progressing and scheduling which have already produced the best results in the workshops and these should be co-ordinated and adapted for application to the arrangements and working in other workshops, special note being taken of measures adopted to remove specific bottle necks in production. To achieve this quickly, we recommend that an officer should be appointed as early as possible and placed on special duty to study the different methods and procedures followed in different workshops. By his knowledge and close study, he will be in a position to suggest to the Chief Mechanical Engineers and their Works Managers, changes in practice and procedure in their workshops, which have given efficient results elsewhere.

Admittedly, this recommendation can only secure, at the most, efficiency equal to the best attained in India, but first things must come first and it will be time enough to consider efficiency comparable with the standards of other countries after railways in India have generally attained the present maximum efficiency standards of India.

The success of this recommendation will depend a great deal on the care with which the selection of this officer is made.

He should be an officer well-versed in workshop organisation and practice and he should have notable achievements to his credit in the efficient running of a workshop in India. He should possess personality and tact so that he is able to obtain concurrence of the Mechanical Departments of the different railways smoothly to the changes suggested by him. It would be an advantage if the officer to be selected has experience of workshop operations in the more advanced countries of the world.

82. *Control over expenditure in workshops.*—The variations in the cost of heavy repairs have already been mentioned and these point to the conclusion that effective control, as desired, is not being exercised over expenditure in workshops. Our investigations indicate that procedure in force is not conducive to the exercise of effective control. The Accounts Department is responsible for giving cost figures under labour, stores and general charges to the Mechanical Engineers to enable them to exercise control over expenditure. Unfortunately, this object is nullified by the interval which occurs between the time the expenditure is incurred and the figures are supplied to the Mechanical Department. The time lag in some cases is two to three months with the exception of the South Indian Railway where it is only about 10 days.

We recommend that the system adopted by the South Indian Railway in making available so promptly details of expenditure to the Mechanical Department, should be followed by other railways. We, however, feel that even if this information is provided promptly, the Mechanical Engineers cannot adequately control labour costs. All that they can do, is to review the working of shops in respect of broad policy and procedure. The difficulty arises from the difference in wages of labour doing the same work on the same railway and also on different railways. Comparisons on the same railway and with the other railways are therefore vitiated.

To enable effective control on labour costs to be exercised, we suggest that statistics on a man-hour basis should be introduced for different operations of unit repairs in the workshops and these figures should be made available to the Works Managers within 10 days of the period to which these relate.

Owing to heavy adjustments which are frequently made by the Accounts Department in regard to stores issues, the control over stores expenditure also becomes difficult. More care is called for in the computation of the costs of stores to be accounted for, in the first instance.

There is no proper costing system in the workshops of Indian Railways and the problem of its introduction should receive special consideration. We deal with this matter in paragraph 108, Chapter IX.

## 11. General Matters

**83. Supply of Materials for Repairs.**—Both the workshops and the running sheds are dependent on the Stores Department for the efficient and adequate supply of stores which are essential for purposes of maintenance. The Railway Stores Department in turn depends on the Industries and Supplies Department for most of the materials required for the maintenance and repair of the rolling stock. Unfortunately, we have received complaints both from the Controller of Stores and from the Chief Mechanical Engineers of Railways that these essential supplies have not been forthcoming and even when supplied, there has been such a protracted delay that it has affected output adversely. We are satisfied that these complaints are substantially justified and the workshops at times have suffered in output due to the uncertainty and inadequacy of the supplies of materials by the Ministry of Industry and Supply. We have made recommendations, in this respect in Chapter VIII and we trust that these recommendations, if implemented, would pave the way for an improvement in this direction.

**84. Shortage of Steel.**—The Railways have specially complained against the shortage of steel and timber which has seriously hampered the work of repairs to the rolling stock. We are aware that there is an all India shortage of these materials and Government's efforts to obtain supplies of steel from abroad have not so far met with any appreciable success. Notwithstanding its shortage, we feel that had the effects of uncertain and inadequate supplies of steel to the railways been fully realised, a more liberal policy would have been adopted to meet railway requirements. At present an undesirable vicious circle is created. Owing to uncertain and inadequate supplies of steel, repairs to rolling stock are being seriously hampered and this in turn is responsible for creating bottlenecks in transport not only for industry in general but even for supply of raw materials to the steel works, thus affecting to some extent the output of steel. A break has to be made in the vicious circle somewhere and it is recommended that the break should be made in favour of the railways in the first instance and necessary steel supplies assured to them. We, therefore, recommend that the Government should make every effort to obtain steel from abroad, and failing adequate supplies from outside sources, priority must be given for necessary supplies to railways for steel available in India. We are aware of the implications of these recommendations, but in view of the vital role which transport plays in the economy of the country, we feel that we are fully justified in making this recommendation.

**85. Shortage of Timber.**—The Ministry of Industry and Supply arranges supplies of timber to the railways from the Government Forest Depots. The railways have complained of inadequate, uncertain supplies and poor quality of timber, which have affected adversely the output of repairs to coaching stock. The wastage of timber is also reported to be heavy owing to unsuitable sizes being supplied. To avoid delays railways are sometimes compelled to accept timber which normally would be rejected if supplies were made on accepted commercial principles. We are aware that timber is also in short supply but we feel that in spite of the known handicaps, the situation can be improved if better personal liaison is secured between the representatives of the Ministry of Industry and Supply, the Government Forest Depots and the Railways. Protracted correspondence about unsuitable supplies seldom leads to desired results and an intimate personal contact between the departments concerned is more likely to secure improvement and satisfaction.

**86. Manufacture of spare parts.**—Another chief cause of the present unsatisfactory output from the railway mechanical workshops and the poor quality of maintenance in the running sheds is the shortage of spare parts. Before the war a majority of these essential components were either imported or purchased from indigenous sources, and relatively smaller

quantities were manufactured in the railway mechanical workshops. These sources dried up during the war and the railways were compelled to manufacture these spare parts themselves for the essential maintenance of the rolling stock. Further burden was thrown on the shops, as the number of manufactured items increased enormously owing to the age of the rolling stock and also as a result of the heavy pilferage from the running sheds.

For the new locomotives added to the railways during the war, adequate spare parts were neither ordered nor supplied at the time, nor were drawings obtained, and it is unfortunate that after the termination of the war, when the import of spare parts for these locomotives had become possible, effective action was not taken to import them. This failure of the responsible authority has resulted in a number of new locomotives lying idle on various railways and requires close investigation which should lead to action being taken against those responsible for such a serious dereliction of duty.

The necessity for increasing the supply of spare parts is appreciated on different railways. Most of the factors which adversely affect output of heavy repairs in shops equally operate in the manufacture of spare parts. Shortage of steel and raw material, inefficiency of labour, inadequate and obsolescent machinery are some of the causes stated to be responsible for poor output from the shops.

These causes and their remedies form part of the larger problem of the efficient working of the railway mechanical workshops which in its wider aspect has already been discussed. The necessity for augmenting the output of spare parts from the mechanical shops will remain for some time in spite of any possible improvement in the working of the shops, and it is necessary to look for other sources to augment the supply. Owing to the shortage of steel and other causes, it has not been possible for the railways to obtain assistance from the prewar indigenous sources but we feel that Government Ordnance Factories provide a valuable source which should be fully used. We attach importance to the potentialities of this source and we are glad to note that the Railway Board had fully appreciated its possibility and had issued a directive to the railways to make full use of this source irrespective of the handicap of high costs. We are aware that railways had placed orders with the Ordnance Factories, but they were easily discouraged with the results on account of heavy delays in deliveries. We made a special point of inspecting the Cossipur and Ichhapore Ordnance Factories and were impressed with the extent of spare capacity in these shops available for railway work. We had discussions with the officers of these factories and with the Director, Ordnance Factories, Calcutta. These officers were most anxious to obtain orders from railways for items for which spare manufacturing capacity existed in the Ordnance Factories and the Director was prepared to adopt an accommodating policy in regard to the price of parts manufactured. There was, however, some justification for the railways complaining about the delay and uncertainty of deliveries. We are convinced that these and other difficulties can be overcome to a large extent by providing an adequate and satisfactory liaison between the railways and the Ordnance Factories and it is suggested that the railways should send their representatives to the factories periodically to ensure progress in their orders. Questions involving priority in execution of orders, details of specifications and working drawings, etc., can be more easily settled by personal discussion than by correspondence. We feel that railways should make a more persistent effort to make use of the spare capacity which is available in the Ordnance Factories and of which they are short on the railways.

In regard to the spare parts which used to be imported from England, we suggest that every effort should be made to procure them from other countries, failing supplies from England. It is most important that all orders for new locomotives should have a compulsory clause which ensures supply of adequate spare parts with the delivery of locomotives.



After surplus staff has been absorbed and conditions return to normal and indigenous sources become increasingly available for supplying railway requirements of essential components, the railways should off-load the manufacture of these parts to private sources. This will help to develop industries and would help railways to concentrate on the more essential work of maintenance which cannot be done outside the railway mechanical workshops.

**87. *Manufacture of fittings.***—Prior to the war, items like bolts, nuts and rivets of general purpose quality were purchased from indigenous sources for all the Government Railways, but during the war, the railways were compelled to manufacture these items in their workshops. An acute shortage of helical and volute springs of sorts was experienced on account of import difficulties. Certain railways designed, manufactured and installed their own machinery to supply these requirements under instructions of the Railway Board. Rationalisation Committees representing different railways on a zonal basis were formed during the war, and by this means, the manufacture of items was allocated to railways best fitted to do the work. There is no doubt that these Committees did very useful work during the war but our impression is that although the need for such co-operation is no less now, yet the rationalisation committees are not functioning with the vigour and earnestness which is required for their success. The railways still continue to manufacture such items as bolts, nuts and rivets. We consider that Industry and Supply Department should be able to develop dependable sources to undertake the manufacture of such items on mass production basis to meet the requirements of the Indian Railways on competitive rates. We do not think that railways should undertake the manufacture of these items as a part of their permanent policy. This does not refer to special non standard items which should continue to be manufactured in railway workshops.

**88. *Diversity in the type of stock and design of new stock.***—Another factor affecting maintenance of output from shops is the diversity of rolling stock on the Indian Railways. There are as many as 166 B.G. and 90 M.G. classes of locomotives, 106 B.G. and M.G. types of coaching stock and 54 B.G. and 30 M.G. types of wagons on the Indian Railways. It is obvious that there is far too much diversity in the type of rolling stock, than is consistent with economical maintenance and operations. We strongly endorse the policy of the Railway Board to concentrate on standardisation and to limit the types of rolling stock to the minimum consistent with the needs of traffic operations. We understand that in future B.G. locomotives would be limited to 9 and M.G. to 6 types. Wagons are already being constructed to I.R.S. design, and we hope that the design of special type wagons will also be standardized. Similar policy is being followed in the construction of the coaching stock.

We should like to emphasise our belief that enormous economies are possible in developing the design of lightweight coaching and goods stock with a view to its adoption on the Indian Railways and we are glad to note that the Railway Board are conducting necessary research in this direction. Not only will such a specially designed lightweight stock with the steel and light alloy bodies increase the pay load both for the coaching and goods stock, but will also entail the use of lesser quantities of steel than would be the case with stock of conventional design.

**89. *Age of Rolling Stock.***—We accept the view that a large number of locomotives are overage and require urgent replacement. On a 35 year age basis, 1739 B.G. locomotives and 892 M.G. locomotives were due to be replaced on the 1st June 1948, but on a 40 year basis, 957 B.G. locomotives and 702 M.G. locomotives, or 21 per cent of the total B.G. stock and 34 per cent of the total M.G. stock required replacement. In view of the present supply position and very high cost of replacements, we recommend that replacements should be made on a 40 year basis subject to rigid condition tests. Even then the number of locomotives required for



B.G. and M.G. would be over 1500. The Government did not feel satisfied with the position in regard to the purchase and supply of new locomotives having regard to the urgent need for replacement of old stock and took the unusual step of sending the Chief Commissioner of Railways on a purchase mission for railway equipment abroad. As a result of this mission and of previous actions, we are advised that orders for the purchase of 963 B.G. and M.G. locomotives have been placed abroad.

The coaching stock due to be replaced in 1947-48 was about 30 per cent and 35 per cent of the total coaching stock on the B.G. and the M.G. respectively. The problem of building bodies under the replacement programme has already been discussed in paragraph 64, but it is obvious that implementation of this programme, in view of the restricted capacity in the country, is bound to take time.

The workshops will, therefore, have to continue repairing rolling stock, which should normally have been replaced. This problem is not unique to India; other countries have to face similar if not worse problems. We appreciate that the maintenance of rolling stock overdue replacements places heavier burden on the Railway Workshops for repairs than the maintenance of comparatively modern stock. This burden is reflected to some extent in increased cost of repairs and relatively more time taken in shops to complete repairs. The problem of maintenance in these circumstances has to be faced with more courage and vigour than would be required for maintenance of modern stock.

90. *Pacific Type Locomotives.*—The Pacific Locomotive Enquiry Committee recommended that the speed of all Pacific type locomotives should be restricted to a maximum of 45 miles per hour and in 1939, the Board applied this restriction until modifications to stabilize these engines could be carried out, exceptions being made in the case of the B.B. & C.I. and the N. W. Railways where measures already taken had removed the danger of hunting. This had led to a very unsatisfactory position at present inasmuch as the most modern and powerful X type locomotives on which the Indian Railways had spent Rs. 285.5 lakhs approximately are not and have not been fulfilling the purpose for which they were purchased and are at present working unimportant trains instead of being used on the mail and other fast trains. We understand that designs to stabilize these engines were completed at the end of 1946, and that the railways concerned placed orders for the necessary materials. The Committee suggest that the Railway Board should take special steps to ensure that modifications are carried out without unnecessary delay so that the existing restrictions of 45 miles per hour can be raised and a large number of modern locomotives is not relegated to secondary services any longer than can be helped. We have not been able to obtain the total estimated cost of modifications to these engines, but the figures given by the B.B. & C. I. Railway indicate that they have spent about rupees one lakh per engine for modifying each of the 14 XC locomotives in addition to spending large sums on strengthening the track. The story of the purchase and operation of these locomotives has been tragic and if we are to avoid the repetition of this sorry tale, we should take heed of the two important lessons which emerge for future guidance. These are—

- (i) the risk of divided responsibility for specification and design; and
- (ii) the undesirability of bulk ordering of engines to new designs without adequate tests.

We understand that the Board, through the Central Standards Office, have taken full responsibility for designs and specifications of the W.P. class Pacific Passenger Locomotives and there has been close collaboration between the Board and the manufacturers in America for the design and manufacture of these locomotives.

The sixteen W.P. Locomotives already delivered, are being subjected to intensive tests, and modifications found necessary as a result of these tests, will be incorporated in the standard design for the remaining 300 locomotives, that are proposed to be purchased. We wish to emphasize

that bulk orders for these locomotives should be placed not only after these experimental engines have been fully tested, but also after modifications found necessary have been proved to be effective in service.

### I. Running Sheds and their Organisation

91. *Availability of Locomotives.*—The percentage of locomotives under or awaiting repairs in running sheds of railways is given below:—

TABLE 13. *Percentage of locomotives under or awaiting repairs in Sheds.*

Railway	In Sheds in 1938-39 %	In Sheds 1947-48 %	Increase or Decrease in 1947-1948 on 1938-39 %
<i>B. G.</i>			
B. N. . . . .	16.9	12.8	—24
B. B. & C. I. . . . .	13.7	20.8	+52
E. I. . . . .	10.5	14.9	+42
G. I. P. . . . .	15.0	14.5	—3
M. & S. M. . . . .	13.7	12.7	—8
S. I. . . . .	9.09	11.7	+28
<i>M. G.</i>			
B. B. & C. I. . . . .	12.7	23.7	+87
M. & S. M. . . . .	9.69	14.1	+45
O. T. . . . .	3.98	9.39	+136
S. I. . . . .	8.04	8.13	+1

The percentage of locomotives under or awaiting repairs in sheds has increased considerably on the three B. G. Railways in 1947-48 as compared with 1938-39, viz., 52 per cent on the B. B. & C. I., 42 per cent on the E. I. and 28 per cent on the S. I. Railway. The position in this respect has improved by 24 per cent on the B. N. Railway and slightly on the M. & S. M. and G. I. P. Railways. The percentage for the B. B. & C. I. Railway is 20.8 which is unduly high. The position needs to be improved on the G. I. P. Railway and the E. I. Railway where the percentages are over 14 per cent., but considerable improvement is required on the B. B. & C. I. Railway where the position is much worse and needs special attention.

The position on the M. G. Railways in this respect has worsened considerably as with the exception of the S. I. Railway, the percentage of locomotives under or awaiting repairs has increased enormously. The worst deterioration has taken place on the O. T. Railway, where the increase in the percentage has been 136 per cent in 1947-48 over the figures for 1938-39. The increase in percentage on the B. B. & C. I. was 87 per cent and on the M. & S. M. Railway 45 per cent. The Railway having the highest percentage of locomotives under or awaiting repairs in 1947-48 was the B. B. & C. I., with a percentage of 23.7, and this Railway had the highest percentage of 12.7 among the M. G. Railways, even in 1938-39. The position in this respect was obviously unsatisfactory in 1938-39 and has since then worsened considerably.

92. *Concentration of Locomotives in Running Sheds.*—The G. I. P. and the E. I. Railways have, in the past, pursued a policy of concentrating locomotives in running sheds. There are at present about 200 locomotives in the Bhusaval Shed on the G. I. P. Railway and 150 and more locomotives in the Asansol, Moradabad, Lucknow Sheds on the E. I. Railway. The overwhelming evidence tendered before the Committee even by the officers of these Railways was against the policy of concentrating large number of locomotives in running sheds. It was stated that under this system, the foreman loses intimate contact with his men and what is equally harmful with his locomotives, and this leads to inefficiency. Their views were that not more than 100 locomotives should be concentrated in a running shed and even less than this number if possible. We are not

convinced that concentration of locomotives in a running shed as at Bhusaval or on the E. I. Railway has led to inefficiency and is a wrong policy to pursue. We, however, recognise that the present poor quality of supervision militates against the success of this policy but we are not justified in reversing this policy on the basis of this factor alone. In view of the strong and unanimous objections urged against such policy by the mechanical officers charged with the duty of maintenance in running sheds, we suggest that until the present difficulties in regard to supervision have been overcome, the railways should not allow any new concentration of locomotives above the number of 100.

**93. Intermediate Repairs.**—The practice of carrying out intermediate repairs varies on different railways. On some railways, like the B. N. Railway, all intermediate repairs are done in Sheds, while on others they are partly done in Shops and partly in selected running sheds. In view of the unduly heavy arrears of maintenance in respect of P.O.Hs on some of the railways, we consider that railways, like the B. B. & C. I., should equip suitable running sheds to carry out intermediate repairs to relieve the pressure on the workshops. But we would stress the point that this recommendation aims at extricating the B. B. & C. I. and to some extent other railways, from their present parlous condition, which necessitate the fullest mobilisation of all possible means to improve locomotive repairs. However, over a long term basis, we cannot regard the economic justification for the carrying out of intermediate overhauls in sheds as proved, except perhaps in the case of sheds such as Jhansi which are situated at long distance from the Mechanical Workshops. When present arrears of maintenance have been overtaken, we would suggest a careful investigation of the question whether intermediate overhauls are necessary, given that periodic examinations and adjustments are adequately carried out. If it is shown that for certain classes of locomotives intermediate overhauls are required, it should be considered whether it is more economical to carry them out in specially equipped sheds or in mechanical workshops.

**94. Coal Loading.**—The method of coal loading into locomotives varies on different railways and in different sheds. The Indian Railways consume 69.68,000 tons of coal per year and the quantity to be used in a locomotive has to be loaded into the tender of the locomotive. The cost of loading is approximately of the order of Rs. 28.43 lakhs. It is therefore important that an investigation should be made to study comparative economies of the different systems in vogue on railways to ascertain the most economic method of loading coal into the tenders of locomotives. The loading of coal at Bhusaval on the G. I. P., where 200 locomotives are stationed, is done by departmental labour, while at Moghalsarai on the E. I. Railway, where over 100 locomotives are stationed, it is done by an overhead coal stage which at first sight would appear to be both economical and efficient. The coal is loaded directly from the wagons on the tender by chutes fixed on the stage on either side. If either the wagon supply or coal consumption were uniform, this would be an excellent arrangement, but as supplies are irregular, coal has often to be stacked on the ground, which makes the whole arrangement uneconomical.

Mr. Ramachandran, an officer on special duty with the Railway Board has recommended a gantry coal crane similar to that at Chitpur Shed as a standard arrangement to be adopted.

**95. Engine Failures.**—We have seen that the position in regard to the maintenance of Power in Sheds has deteriorated on most of the railways and is in an unsatisfactory condition. This implies that not only that a large number of locomotives is held up in sheds under repairs but owing to the unsatisfactory maintenance, even those which are in use, cannot be depended upon for reliable service. This is best seen by a study of the

figures for engine failures both for B.G., and for M. G. Railways, which are given in the following statement:—

TABLE 14.—*Mileage per engine failure.*

Railway	1938-39	1945-46	1946-47	1947-48	Depreciation in mileage of engine failure in 47-48 compared with 1938-39.
<i>B. G.</i>					
B. N.	47,197	46,011	69,103	47,531	+ 1%
B. B. & C. I.	1,35,105	31,206	23,821	18,308	--86%
E. I.	76,400	16,911	22,365	17,947	--76%
G. I. P.	72,265	31,263	33,470	22,839	--68%
M. & S. M.	56,491	37,992	43,727	36,508	--35%
S. I.	80,264	33,182	38,734	20,102	--77%
<i>M. G.</i>					
B. B. & C. I.	52,029	34,066	19,575	12,076	--77%
M. & S. M.	1,17,198	33,032	29,487	23,683	--80%
O. T.	71,703	60,569	55,683	46,363	--35%
S. I.	1,31,595	58,273	31,284	34,864	--73%

These figures clearly indicate the extent of the deterioration in the conditions of the locomotives in service on line. There has been a fall of about 66 per cent in the number of miles per engine failure in 1947-48 as compared with 1938-39. With the exception of the B. N. Railway and comparatively small decrease of 35 per cent on the M. & S. M. (B.G.) and O.T., the decrease has been most marked amounting to about 70 per cent and well above it on the other railways in India. The mileage per engine failure is very low at present on all the railways in India and making allowance for failures due to the mismanagement of the crew or owing to the supply of inferior coal, the low mileage indicates the poor condition of the maintenance of power in sheds. The B. B. & C. I. and the E. I. on the B. G. and the B. B. & C. I., M. G., have very low mileages per engine failures, the latter having come down to 12,000 miles. All railways in India and particularly the E. I. Railway and B. B. & C. I., B.G., and M.G., require special measures to be taken to improve the conditions of maintenance of power in sheds. These conclusions are fully borne out by our personal observations when we inspected the running sheds on different railways in India. We found that on some railways, for instance on the B. B. & C. I. the layout of the locomotive yards was faulty, the supervision in sheds inadequate, equipment and facilities for repairs scanty and methods and procedure generally defective. On the other hand, we were impressed with the facilities, equipment and methods followed on the B. N. Railway. Generally, we found that schedules, equipment and the extent of facilities differed considerably from railway to railway and the procedure and methods of work varied greatly and even organisations differed in vital respects. These variations and difference are so marked in their consequential effects on the availability of locomotives and their usage that the Government of India decided in 1947 to appoint an experienced Mechanical Engineer, Mr. Ramachandran, with the following terms of reference:—

“(i) Examination of existing repair schedules, facilities and equipment for maintaining engines in running sheds on the B.N., G. I. P., E. I. and B. B. & C. I. Railways.

(ii) To submit suggestions in respect of—

- improvements and modifications with a view to increasing availability of engines in running sheds for traffic use; and
- standardisation of repair schedules, facilities and equipment in running sheds on Indian Railways.”

We have read Mr. Ramachandran's report with great interest. We understand that the Report has been referred to the railways concerned for their comments and observations and we hope that no undue delay will occur in implementing the final decisions of the Railway Board on this report. We are in general agreement with the observations made in the report. We consider that the present position of unsatisfactory maintenance on railways is chiefly due to defective or inadequate supervision, lack of statistics and wrong procedure, faulty organisation, lack of proper training facilities and lack of suitable equipment in sheds, and we believe that if the organisation in the running sheds, is built on sound lines somewhat similar to that which has been evolved on the B. N. Railway, maintenance in running sheds will improve with a consequential increase in the availability of power for traffic use. The instructions for the repairs and maintenance of the locomotives are laid down so clearly and explicitly in the circulars issued by the B. N. Railway that it makes it very easy for the supervisors and their staff to understand and follow the instructions thus facilitating their work appreciably. We recommend the adoption by the other railways of the procedure as followed on the B. N. Railway.

Mr. Ramachandran has made valuable suggestions and recommendations to rectify existing defects and even if some of his recommendations are not accepted, others if implemented are bound to improve the position considerably in respect of the maintenance in sheds. As already stated we were struck with the lack of facilities, equipment and adequate supervisory staff in the running sheds on the B. B. and C. I. Railway, and in view of the unsatisfactory position regarding the maintenance of power on that railway, we recommend that priority should be given to the requirements of this railway in implementing the recommendations of the special officer. This matter should not be left to be dealt with in a routine manner by the local administration but a special drive should be made by the Railway Board to equip running sheds on this railway with modern and adequate facilities. The number of locomotives that are overdue for heavy or intermediate repairs is already very large and unless specially energetic action is taken on this railway in the manner suggested, there is likelihood of a breakdown of the power arrangements on it.

**96. Investigation into Engine Failures.**—The marked deterioration in the maintenance of locomotives in running sheds as reflected in the number of miles per engine failure has already been commented upon in a previous paragraph. It is vitally important that each engine failure should be thoroughly and critically investigated by a responsible officer assisted by supervisory staff and when failures are due to human factor, intensive instructions and propaganda amongst staff should be undertaken to secure improvement. Failures due to defective design or unsatisfactory maintenance would require alterations in design or possible change in procedure.

We do not think that searching investigation is being made into all engine failures on these lines on all railways at the present time and we consider that this matter should receive urgent attention of those concerned and particularly on railways with low mileages per engine failure. There should be no undue delay in holding investigation into a failure.

We commend the "Casualty League" competition based on miles per engine failure referred to by Mr. Ramachandran and introduced on the B. N. Railway to stimulate interest amongst staff to reduce failures. At the end of a year a Shield is awarded to sheds showing the best results. The seniority position of sheds and districts in regard to engine failures is publicised in the monthly domestic statistics.

**97. Training facilities in Running Sheds.**—We are impressed with the growing necessity of providing training facilities on each railway for the running shed apprentices both supervisors and artisans. These facilities do not exist at the present time on the B. B. & C. I., O. T., S. I., and M. & S.M. Railways. In view of the shortage of skilled staff in some of the running sheds, the matter assumes urgency and it is important that a sufficiently large number of apprentices should be recruited for training

to meet immediate and prospective requirements. A course of combined training in workshops, running sheds and technical schools similar to that obtaining on the G. I. P. Railway is recommended.

**98. Organisation of Running Sheds.**—Organisation and responsibilities vary with different railways. The Chief Mechanical Engineer is responsible for repair and maintenance in running sheds on the B. N., B. B. & C. I. and O. T. Railways. All the staff working in a shed and all the locomotive running staff are under the Chief Mechanical Engineer. On the S. I. Railway, the Deputy Chief Mechanical Engineer 'Power' who is seconded to the operating department, is responsible to the Chief Operating Superintendent for the maintenance in Locomotive Sheds. On the G. I. P. Railway the Chief Mechanical Engineer is responsible for repairs to locomotives in sheds, but the running staff, shed and sick line staff are under the control of the Chief Transportation Superintendent through the Deputy Power, an officer of the Mechanical Department. On the E. I. Railway, the Chief Mechanical Engineer is responsible for the maintenance of locomotives in running sheds and yards, but the staff in running sheds is under the control of the Chief Operating Superintendent for the running side and under the Chief Mechanical Engineer for repairs and maintenance. On the M. & S. M. Railway, the Chief Mechanical Engineer is responsible for the maintenance of locomotives in the running sheds on the P.G. sections of the line. All works connected with the maintenance of rolling stock and staff including the maintenance of the M.G. locomotives, are under the Chief Operating Superintendent.

It may be assumed that organisations have developed to suit local conditions. The organisation suitable for a railway working on a departmental system may not be suitable for a railway working on a Divisional system. One essential feature to which we attach importance is that in the present circumstances the Chief Mechanical Engineer should be responsible for the repair and maintenance of locomotives in the running sheds. He may, or may not be loaded with other duties connected with Power. The organisation, on the M. & S. M. and S. I. Railways does not conform to this principle and on the M. & S. M. Railway no consistent principle has been followed, as the responsibility for locomotive maintenance rests with the Chief Mechanical Engineer on the B.G. and with the Chief Operating Superintendent on the M.G. This should be rectified in nance rests with the Chief Mechanical Engineer on the B. G. and with the of all work and personnel in a running shed should rest with one officer. This is not always the case, as we noticed at the Bhusaval Running Shed where there is a divided control between the Superintendent Power and the Divisional Mechanical Engineer; the former is responsible for everything except repairs and maintenance. The functions of the Divisional Mechanical Engineer and the Superintendent, Power, require to be combined, as otherwise the present arrangement is liable to lead to friction and inefficiency.

Sir George Cuffe, while agreeing that the Chief Mechanical Engineer must continue to be responsible for repairs to locomotives in the running sheds in the present circumstances, is of the opinion that when conditions return to normal and the arrears of maintenance have been made good, the responsibility for repairs and maintenance in sheds should rest with the Transportation Department, and the Chief Mechanical Engineer's responsibility should be confined only to the workshops. His object is to ensure a clear cut division of responsibility between the mechanical and transportation departments and to avoid any divided responsibility in sheds. The other members of the Committee do not consider it necessary to enunciate a long term policy in this connection, and content themselves with expressing their views as given above, to meet the present circumstances.

**99. Close liaison between shops, sheds and Controller of Stores.**—Another important factor which has emerged as a result of our observations is the necessity for increased liaison between the sheds and shops and the Controller of Stores. It is essential that both the Controller of Stores and the Shops should know what locomotives are likely to be held up and are held up for want of spare parts or materials, so that prompt action can

be taken by the authorities concerned. One of the chief complaints for the deterioration of the maintenance in running sheds is the uncertain and unsatisfactory supplies from the shops and stores and a closer liaison should help to ease and improve the position. We suggest that periodical meetings of the representatives of stores, shops and sheds should take place to review the position of the supply of material and spare part to the sheds.

**100. Concluding Remarks.**—We have already stated that maintenance in sheds cannot be satisfactory unless the layout of the sheds and equipment is reasonably adequate. There is a large number of sheds on different railways with a defective layout and inadequate equipment. These defects should be rectified and necessary facilities provided on a programme basis for each railway. This will take time. We are, however, convinced that in the meantime by initiative and vigorous action, a good deal can be done that will be conducive to efficiency. There is no reason why running shed buildings, floors and locomotive yards should continue to be badly maintained and we recommend that the buildings should be satisfactorily maintained and brightened up by paint and whitewash where necessary, floors should be repaired and kept clean and the locomotive yard should be maintained in a tidy condition. This will have a healthy psychological effect on the staff working in the sheds.

## CHAPTER V

### Operation.

#### A. General Review of Transport Situation

**101.** The Committee on its tours have come across a good deal of evidence to show that the railway transport situation in the country has continued to decline, particularly from 1945. We have heard that a considerable volume of potential goods traffic is kept waiting long for wagon supply and that production is suffering owing to the failure of the Railways to keep the mills and factories supplied with raw materials. Even the movement of finished products has not proceeded apace. The movement of coal, the very vital of industries, is considerably below the target.

The extent of public discontent was clearly reflected in the debate that took place in February, 1948, on the Railway Budget in the Dominion Parliament. The Hon'ble Minister for Railways sought to explain the difficulty by emphasising that if railway transport was a 'bottleneck' militating against the increase of production, lack of adequate production itself hampered the provision of transport facilities on an expanding scale. In any case, we are convinced that the railway transport situation in the country is unsatisfactory and has become grave in recent times, which calls for an all round determined drive to improve the position. The number of wagons in service on Indian Railways has steadily improved since 1941-42 and the number of locomotives has also risen. There has also been a considerable increase in the number of staff. Still, we are forced to admit that instead of a corresponding increase in the tons of goods carried since 1944-45, there has been a serious falling off, which calls for urgent consideration. This is certainly not due to any diminution in the volume of traffic offering; it is common knowledge that railways are at present failing to move all available goods traffic. There have been various estimates as to the volume of goods traffic that the railways are unable to move; probably an increase to the 1944-45 level, representing an overall increase of about 11 per cent. on the tonnage lifted in 1946-47, would go a long way towards bridging this gap.

**102. Review of traffic handled and transport situation.**—We feel that the best way to show how the traffic handled on Indian Railways has varied in recent years is by means of graphs. We, therefore, reprint as Appendix XXV some of the graphs included in the Railway Board's Administration Report on Indian Railways for 1946-47, Volume I. These graphs show variations from the year 1923-24 to 1946-47. The fourth and the third graphs show that the traffic carried and the net ton miles dropped during the first ten years to a minimum in the year 1932-33; then the traffic gradually recovered and increased during the war years to a peak in the years

1944-45 and 1945-46 and has since dropped. The fifth and seventh graphs, giving the goods stock and locomotives in service, show how the number of locomotives gradually declined reaching a minimum in the year 1941-42 after a number of locomotives had been exported for use in the Middle East and how it has since increased owing to the importation of new locomotives from abroad. Similarly, the wagon stock, which had started to increase shortly before the war, dropped in the year 1941-42 owing to the exportation of wagons and has since increased rapidly owing to new construction and importation. The Indian Railways' performance may be considered as having reached its peak in the year 1941-42 when the total net ton mileage, not greatly inferior to the 1945-46 maximum, was moved with a minimum of wagons and locomotives. The tragic part of the picture is what happened in the year 1946-47 when, in spite of increasing locomotives and increasing wagons, the tonnage handled has seriously fallen off.

On the passenger side the story is somewhat different. The graphs A and B show that in the year 1941-42 war had only caused a modest increase in passenger traffic. In the year 1946-47, however, passenger miles showed an increase of 91 per cent. on the figure for 1941-42. At the same time, the available number of carriages has steadily decreased from the year 1931-32 onwards; the stock at the end of March 1947 was only 86 per cent. of what it was in 1932. Judged by these figures, passenger traffic has been maintained at a satisfactory level, but we must admit that the standard of service has greatly deteriorated. Overcrowding and lack of amenities, both in carriages and at stations, have caused country-wide discontent: punctuality of trains has suffered greatly and all these factors have considerably lowered the prestige of railways in the eyes of the travelling public.

The twelfth graph shows the total number and cost of staff on Railways. It will be seen from the graph that there has been a sharp increase from 1941-42 onwards in the number and cost of staff and during the 5 years from 1941-42 to 1946-47, the number of staff has increased by 40 per cent. and the cost by 85 per cent. In 1948-49, the cost is likely to advance further owing mainly to the revision of scales of pay on Central Pay Commission's recommendations.

The graphs are impressive but do not tell the whole story. In spite of important additions to the number of locomotives and wagons on railways during the last five years, there have been other large works carried out to facilitate the increase in the movement of goods traffic; as, for example, the quadrupling of the E. I. Railway main line between Ondal and Khana Junction, the doubling on the B. N. Railway between Bankura and Midnapur, the remodelling and extension of Dhond and Itarsi yards on the G. I. P. Railway, and the construction of the Khargpur avoiding line on the B. N. Railway.

The main problem to consider, therefore, is why are Indian Railways handling less goods traffic now than they did in the war years, in spite of increased staff, increase in the number of locomotives and wagons and some improvement of other facilities? It should, however, be noted in extenuation, that, as shown in the second graph, the average load of goods traffic has risen sharply in the last two years. We are informed by those best qualified to judge that a further increase in average load is unlikely. As we see it this falling off in the ability to continue to move goods traffic at the war time level is, to a large extent, due to the reduced efficiency and reduced output of work by the staff and to a degree to the lack of proper initiative, direction and guidance from the top. We are considering the position as it was at the end of March 1947, and are, therefore, now disregarding the effects of Partition and the transfers of staff to and from Pakistan, which have caused fresh difficulties.

This reduction in efficiency of the staff would seem to be due to the following causes:—

- (i) dissatisfaction caused by continued inflation: worsening of the cloth and food situation causing a reduction in the standard of living in spite of increases in earnings;



- (ii) 'go slow' attitude caused by fear of retrenchment, if it can be shown that present work can be done by fewer men; this has been accentuated by delay in making permanent any large percentage of those who have been temporarily employed for some years;
- (iii) growth of subversive influences: a "whispering campaign" against present authorities;
- (iv) increased consciousness of the power of organised labour, combined with a failure to appreciate that increased production is a national necessity;
- (v) reduction in the general quality of skilled workmen and of subordinate supervisors, largely owing to increases in number of staff, leading to dilution.

Many of these factors are affecting other industries as well as the Railways: we deal with them in detail in Chapter X of this Report. But until the standard of efficiency, keenness and *esprit de corps* can be raised to the level of ten, or even six years ago, we see little hope of the Railways giving the country the transport service that is so urgently required. We deal in this Chapter with certain aspects of railway operation and in some cases make suggestions for improvement; but we would stress that none of our recommendations can be effective unless the general standard of work is improved.

### 3. Organisation

**103. Scope of Operating Department.**—It is necessary here to consider what the responsibilities of the Operating Department or Branch should be. In early days all Railways were organised on what may be described as the 'Three Department' system. (1) The Engineering Department, which was responsible for the provision and maintenance of the line, track, buildings and all immovable property: (2) The Locomotive and Carriage Department, which was responsible for the provision, maintenance and operation of all rolling stock and mobile equipment: (3) The Traffic Department, which was responsible generally for train running, time tabling, wagon supply, rates and fares, booking, etc. This system provided clear and fairly easily defined responsibilities for the two technical and one non-technical departments. But, in the last twenty-five years, changing circumstances have led to a radical alteration in the organisation of most Indian Railways. The reasons are briefly as follows. The older three-department system developed two main defects: insufficient attention to or understanding of commercial problems by officers also burdened with 'movement' duties: and impairment of operating efficiency owing to the locomotive running staff and traffic running staff belonging to different departments although their duties are entirely inter-dependent.

This has led to the adoption of what may be described as a 'Four Department' system in which the responsibilities of the Departments may be roughly defined as follows: (1) The Engineering Department remains unchanged as in the 'Three Department' system, (2) the Mechanical Department is responsible for the supply and maintenance of rolling stock, but not for its operation, (3) the Operating Department is responsible for utilizing and operating the resources provided by the Engineering and Mechanical departments so as to provide the saleable commodity—Transportation—and (4) the Commercial Department is the sales Department, responsible for selling to the best advantage the Transportation produced by the Operating Department.

This may be taken as a rough description of the responsibilities of the main departments or branches as they exist today on the main Government Railways other than B. B. & C. I., O. T. and Assam Railways, which are still adhering to the old 'Three Department' system. Further, there is considerable divergence as to where the actual lines should be drawn defining the exact responsibilities of the Mechanical, Operating and Commercial Departments. We discuss the problem of the Commercial Department and

its responsibilities in paragraph 131, Chapter VI, so we confine ourselves here to considering the line of demarcation between the duties and responsibilities of the Operating and Mechanical Departments or Branches.

The general object, as we have seen, is that all officers and staff dealing with the actual movement of traffic both technical and non-technical should belong to one department or branch so that they are responsible to one Head of Department, in a departmental organisation or, on a divisional system, are responsible through the Divisional Superintendent to one Principal Officer. This is required to avoid friction and ensure co-operation, through all such officers and staff carrying out orders emanating from one authority and so working to one common policy. The present organisations of the E. I., G. I. P., E. P., M. & S. M., and S. I. Railways, though they differ in important respects, conform generally to this pattern. The B.N. Railway Organisation does not; on the B. N. Railway all locomotive running staff belong to the Mechanical Department, but come under the orders of the Transportation Department as soon as they and their engines leave shed.

We would suggest the following as an inclusive, but not necessarily exclusive, list of the duties and responsibilities of an Operating Department:—

- (i) Distribution of locomotives,
- (ii) Operation of locomotives,
- (iii) Preparation of link diagrams,
- (iv) Coal distribution,
- (v) Coal economy,
- (vi) Carriage and Wagon inspection and maintenance in sick lines,
- (vii) Carriage cleaning,
- (viii) Train running,
- (ix) Preparation of time table.\*
- (x) Operation of yards,
- (xi) Distribution of rolling stock,
- (xii) Preparation of rake charts,
- (xiii) Wagon allotment.\*
- (xiv) Station working generally,
- (xv) Preparation and issue of Rule Books and stating working rules
- (xvi) Ordering of goods trains,
- (xvii) Ordering of special trains,
- (xviii) Working of control offices,
- (xix) Preparation of proposals for additional yard facilities,
- (xx) Movement of parcels and goods traffic, other than booking and delivery

The asterisk against items (ix) and (xiii) indicates that these responsibilities should be discharged in consultation with the Commercial Department.

We have not included locomotive maintenance in sheds as, *vide* paragraph 98 of Chapter IV, our views on this subject are divided.

It will be seen that the discharge of these responsibilities must involve the inclusion in the Operating Department of a large number of the officers in the Transportation (Power) and Mechanical cadre. We do not, however, recommend a division of this cadre as we do, *vide* Chapter VI, in the case of the Transportation (Traffic) and Commercial cadre. In the first place, it is very important that power officers in the Operating Department and Workshops Officers in the Mechanical Department should have a very clear idea of each others difficulties. This can adequately be served by maintaining a joint cadre and seeing that each Officer's years of service are suitably divided between the two Departments. Secondly, if the cadre were to be divided it would be very difficult to secure even approximately equal prospects of advancement for the officers in the two separate sections.

### C. Operation of Goods Traffic

104. *Trend of goods traffic.*—The movement of goods traffic during the last twenty-five years is shown graphically in Appendix XXV. The tons of goods carried have tended to increase steadily from 1932-33 and reached a peak in 1944-45 since when there has been a considerable falling off; though this falling off appears now to have been arrested, there are no signs yet of any real improvement. The number of wagons in service, on the other hand, has progressively increased since 1941-42, as also the number of locomotives on railways. The inevitable conclusion is that the utilization of wagons on railways must have been poor during the last few years.

105. *Wagon stock and wagon user.*—First of all we would desire to dispel the view still prevalent in many informed circles that 'wagons shortage' is solely due to the number of wagons on Indian Railways being insufficient and that the immediate addition of several thousand more wagons would set matters right and straightaway enables railways to move more traffic. It must be admitted that at the commencement of the war, the goods stock on Indian Railways (B.G.) was not excessive, amounting to 147,947 freight earning wagons in March 1942; by March 1947 this figure had risen to 170,694, an increase of 13 per cent. During and since the war therefore, total goods stock has increased substantially. Yet this has not helped the railways to move any appreciable additional traffic, and the volume of goods traffic handled in ton miles remained roughly constant from 1942 to 1946, and has since fallen.

'Wagon shortage' is a symptom of disease: it is not a disease in itself. When a trader asks for five wagons to load his traffic and the Railway only provides one, it does not mean that the other four wagons are physically non-existent: it indicates that there is a hold-up somewhere or that wagons are not moving smoothly and swiftly to their loading points.

In the following table we give the average turn-round of wagons in days on the various broad gauge railways for three years 1940-41, 1946-47 and 1947-48.

TABLE 1.—*Turn-round of wagons (days)*

Railways	Year	April	May	June	July	Aug.	Sept.
B. N.	1940-41	6·8	6·8	7·2	7·7	7·5	6·7
	1946-47	6·8	6·7	7·2	8·0	8·8	8·4
	1947-48	7·8	7·5	7·5	7·7	8·5	8·1
B. B. & C. I.	1940-41	5·3	5·8	6·5	9·2	9·5	8·4
	1946-47	4·2	4·8	5·3	5·8	6·8	6·4
	1947-48	6·8	6·9	7·0	7·6	8·0	8·0
E. I.	1940-41	8·6	9·3	10·6	10·8	11·2	9·8
	1946-47	11·2	12·0	12·4	12·4	13·5	12·9
	1947-48	13·5	14·3	13·7	13·6	14·2	14·6
G. I. P.	1940-41	5·2	5·5	6·1	6·8	6·7	5·9
	1946-47	7·7	8·0	8·6	8·4	8·7	8·8
	1947-48	8·3	8·5	9·2	9·6	9·7	10·6
M. & S. M.	1940-41	4·2	4·5	4·7	5·2	5·1	4·9
	1946-47	6·2	6·1	6·4	6·1	6·6	6·4
	1947-48	6·4	6·3	6·9	6·3	6·6	6·4
S. I.	1940-41	4·0	4·3	4·7	4·7	4·3	4·0
	1946-47	4·2	4·4	5·1	4·7	5·2	7·6
	1947-48	4·4	4·4	4·4	4·2	4·8	4·7

Railways	Year	Oct.	Nov.	Dec.	Jan.	Feb.	March.
B. N.	1940-41	6·6	6·9	6·4	6·5	6·3	6·4
	1946-47	8·1	8·0	7·7	7·1	7·0	7·8
	1947-48	8·6	8·4	8·3	7·9	7·4	8·1
B. B. & C. I.	1940-41	6·3	5·5	5·5	5·0	4·9	5·1
	1946-47	7·2	7·0	6·6	6·8	6·5	6·2
	1947-48	7·5	7·5	7·6	7·6	6·1	7·3
E. I.	1940-41	9·7	10·1	9·6	9·0	8·5	8·8
	1946-47	12·8	13·4	13·1	12·0	12·2	12·3
	1947-48	17·4	14·9	14·1	12·4	12·8	12·6
G. I. P.	1940-41	5·9	5·6	5·5	5·4	5·7	6·1
	1946-47	7·8	7·9	7·5	7·2	7·6	8·3
	1947-48	10·3	9·5	9·5	10·0	10·1	10·3
M. & S. M.	1940-41	4·7	4·8	4·4	4·2	4·1	4·3
	1946-47	6·1	6·3	7·7	5·9	5·7	6·2
	1947-48	5·8	5·8	5·4	5·6	6·1	5·9
S. I.	1940-41	4·4	4·3	4·4	4·0	3·9	4·1
	1946-47	5·2	5·4	4·9	4·9	4·6	4·2
	1947-48	4·7	4·4	4·3	4·2	4·4	4·6

On all railways, except the M. & S. M. and S. I., there has been a very appreciable increase in the turn-round figures which cannot be explained away by a comparatively slight increase in the lead of goods traffic. For example, on the E. I. Railway in April 1940, the turn-round was 8·6 days which increased to 13·6 days just before the Partition, and in March 1948 figure is 12·6 days. On the G. I. P. Railway also the turn round has increased from 5·2 days in April 1940 to 10·3 days in March 1948. All these figures reflect unsatisfactory wagon user. The wagon miles per wagon day—in terms of four-wheelers—as will be seen from the tenth graph Appendix XXV, have tended to decline since 1941-42 on the B.G. and since 1944-45 on the M.G. Similarly, the net ton miles per wagon day have also registered a fall since 1944-45 except on the B. N. Railway as the following figures will indicate:—

TABLE 2.—Net ton miles per wagon day (in terms of four wheelers)

Railways	1938-39	1944-45	1945-46	1946-47
<b>B. G.</b>				
B. A.	166	185	238	145
B. N.	391	446	449	528
B. B. & C. I.	337	809	722	453
E. I.	359	403	388	347
G. I. P.	468	630	578	461
M. & S. M.	401	555	493	428
N. W.	279	362	371	316
S. I.	302	465	418	348
<b>M. G.</b>				
B. A.	123	123	96	77
B. B. & C. I.	191	504	372	238
M. & S. M.	173	277	249	207
O. T.	123	195	127	92
S. I.	120	226	229	194

We do not propose to use these figures to judge the relative fall in the wagon user on railways but they do indicate clearly that for whatever reasons it may be, the loss in transportation ability on the railways has been great. We have commented later in this chapter that the so-called dearth of locomotives on railways cannot explain the very large deterioration in the movement of goods traffic and the utilisation of wagons on most of the railways. If only the standard of wagon user that was achieved during 1944-45 could have been maintained during the succeeding years, the E. I. Railway would have moved 15 per cent extra traffic in 1946-47, G. I. P. about 35 per cent, M. S. M. 30 per cent, S. I. 20 per cent and O. T. cent per cent. It is regrettable that the comparatively high standard set on most railways during the war and in the immediate postwar year has registered a sharp decline.

106. *Principal hold-ups of goods traffic.*—We propose to discuss now what appears to us to be the principal "Hold-ups" or "bottlenecks" which are limiting the movement of traffic on railways at present and suggest means of improvement. This forms perhaps one of the most important problems facing us; if our railways could move freely all goods traffic offering, they would be at least a long way towards securing their future financial prosperity. From our evidence, we are led to assume that the principal restrictive factors are the inadequacy of terminals, such as in the Calcutta area or in the Delhi area; inordinate delays in marshalling yards; sectional delays; and delays at break-of-gauge junctions, particularly at interchange points. In addition, there are certain sections of line where the capacity is limited and we would quote as an instance, the North East line from Madras to Calcutta and the Grand Chord line of the East Indian Railway. We consider these factors before dealing with the other equally important questions which might improve operation but cannot be taken as directly affecting the movement of traffic.

107. *Terminal delays.*—A common feature during and since the war years has been the serious congestion at the larger terminal points, usually the goods stations in the major cities, involving delays to large numbers of wagons and curtailment or stoppage of booking to that terminal. It must be admitted that in some cases terminal capacity was hardly sufficient even before the war; we would instance the Calcutta area where there has, at times, been serious congestion for many years past at Howrah, Sealdah and Chit-pore-Cossipore. We need not dilate on this, as another Committee has already made recommendations for the improvement of Calcutta's terminals. Delhi is another city where shortage of terminal capacity has been a serious problem for some years, and has now become acute. Some action is already under way. But at Delhi another difficulty presents itself, the narrowness of certain streets limiting the volume of goods that can be carted or taken in lorries from the railway terminals to destination. This raises the point that Railways, in planning alterations to goods terminals, must work in close touch with Improvement Trusts or similar bodies; otherwise there is a risk that capital expenditure on railways may be wasted owing to road limitations preventing full advantage being taken of additional terminal facilities provided by the Railway. We can only recommend that in the case of major cities where shortage of terminal capacity is manifest, early action should be taken to review present and future requirements and to formulate plans for increasing and improving terminal facilities to the required extent. In some cases, this may be very expensive but it must be faced. It is useless to spend large sums on increasing the capacity of a railway to move traffic if the terminals cannot receive and deal with the extra traffic.

Another factor which has led to terminal congestion at times has been the unfortunate disturbed conditions in various places, leading to the disappearance of loading and unloading labour, and other difficulties. We can only hope that such circumstances will not recur, but at times movement on the railways has been very seriously hindered by curfew orders preventing staff from reaching their work.

108. *Marshalling yard delays.*—Next we turn to marshalling yard delays. The general symptom of trouble at a marshalling yard is congestion, leading to inability to accept incoming trains freely. The primary

duty of marshalling yard staff should be to accept trains freely; otherwise it becomes impossible to work the main line efficiently or economically. In order to ensure room for the prompt receipt of incoming trains, all traffic must be dealt with expeditiously, that is, trains must be re-marshalled and worked away sufficiently promptly to avoid danger of congestion. Certain points have come to our notice as militating against effective work in yards, shortage of power availability, poor liaison between yard and shed staff, over-insistence on full train loads, inefficient supervision and general slack working on the part of the yard staff. We omit to include unsatisfactory layouts of yards; occasionally we have found the yard layout blamed when really the system of working was at fault: we feel that caution is desirable here and that no scheme for yard remodelling should be undertaken until it has been demonstrated that the available facilities are being efficiently used to capacity and that the provision of additional facilities will with certainty enable more traffic to be handled with greater expedition.

109. *Yard supervision.*—We feel that the main trouble is that, only too frequently, yard supervisory staff are poorly selected and inefficiently trained. Yard Supervisors' jobs are not very popular: they involve hard open air work in all seasons, hot, cold or wet, by day and by night: men also feel that they are less 'in the lime-light' in such posts than in a control office or at a larger station, and, therefore, may stand less chance of selection for further advancement. We have examined the promotions actually made on two large systems, of subordinates in the traffic department, to posts of Officers, and find that except in a very few cases, the yard staff have little chance of such advancement.

While we have come across a number of energetic and capable Movement Officers, we are not satisfied that all such Officers give sufficient time to a close study of the working of the yards for which they are responsible. It is only the Officers who have the time to 'sit back and think' and who can study the work—routine in a yard and make suggestions, which might improve and expedite work. This defect must be put right. It must further be impressed on the yard supervisory staff that they are, perhaps more than any others, the 'keymen' of the railway, and on them: very largely depends whether traffic on the railway keeps 'fluid' or 'congeals'. They must be suitably remunerated and have such an avenue for further promotion as to ensure that the best and keenest men compete for these posts. They must be frequently visited, advised and encouraged by their superior officers; as a corollary, the superior officer must himself spend so much time in the yard that the subordinate supervisor knows that his officer understands the job better than he himself does. We have seen that on some of the railways the pay of the Yard Masters and Asstt. Yard Masters are lower than that of the Station Superintendents and Station Masters and assistants of corresponding rank and responsibility. While we do not wish to make any specific recommendation regarding any particular station, we feel that the pay of the two categories of staff should be more or less equalised. We are glad to note that this has been allowed for in the Pay Commission's scales of pay.

Lastly, a word about yard Number Takers. The work these men do, though of a soul destroying routine nature, is essential and has to be carried out, out of doors, in all conditions of weather. The work must also be done accurately: at least one serious accident in recent years was caused by a yard Number Taker incorrectly copying down the weights on wagon labels. Yet, owing to the conditions of the work, Number Takers are apt to be considered as the 'lowest form of life' in the class III (subordinate) grades and vacancies are generally filled by the appointment of the least bright of a batch of class III probationers. In this connection, reference is invited to Chapter X. We have one suggestion to make in this connection. We believe that in many cases there are men in the various class IV positions in yards who are sufficiently literate to read and copy correctly a wagon label. To them, promotion to Number Taker, in the class III service, would be a real promotion and it would be suitably valued. We realise that in the past between the so-called 'inferior' and

'subordinate' service there has been a great gulf fixed. We suggest that in this case an exception should be made and that class IV traffic staff in the yard should be eligible for promotion to fill a certain proportion of vacancies as Number Takers, which should be kept reserved for them. It should neither be necessary for them to possess the minimum educational qualifications nor the maximum age restrictions prescribed for class III candidates. There would be no question of their eligibility for further promotion, at any rate beyond Head Number Taker.

110. *Yard communication*.—It has been suggested at some yards that the communication system provided is insufficient to make proper control possible, and we believe that at Moghalsarai the East Indian Railway have in hand the installation of a new and improved telephone control system. The use of short distance wireless telephony for this purpose has also been suggested. We would not make any very definite recommendations on this point. In suitable cases, improving and modernising yard communications may increase the speed and efficiency of working, and accordingly be justified. But such improvements will not, in themselves, create efficiency where it does not at present exist.

111. *Sectional delays*.—Next, we turn to the reasons for delays to trains 'on the run'. As we have observed, lack of capacity in terminals or congestion in marshalling yards at once reacts on running trains, causing delay and, not infrequently, the stabling of loads at wayside stations. But there are many other factors which may lead to detention to trains, and to reduction in the capacity of the railway concerned to move traffic. Among the causes are bad controlling, poor maintenance of locomotives, inefficient management of locomotives, bad coal, lack of energy and attention on the part of the running staff and, last but not least, lack of effective supervision and control by superior officers. This can only be exercised satisfactorily through some organisation under which the progress of a train from the time it is formed in a yard to the time it reaches its destination is continually traced in a Central Office. This is sought to be done through the Control organisation, to which we revert later. What we would like to stress here is the need for a co-ordinated control chart showing movement particulars of trains prepared by a responsible official who should make periodical comparison of these charts over a long period so as to determine the chronic causes of delay. Similar reviews should be made from time to time by the appropriate superior officers, particularly to find out long standing causes of delays. Where control is not in operation, a somewhat similar analysis should be made regularly on the basis of the guards' journals. We appreciate the fact that on some divisions or districts, an analysis of this kind is regularly carried out and action taken on the results of the analysis, but the practice is not as universal as we should like to see.

Such analysis should be confined not only to the limits of a district or a division but for important goods trains for the railway as a whole.

112. *Break-of-gauge transshipment*.—Another factor that is causing delay and curtailing the volume of goods traffic moving is that as India is essentially a two-gauge country naturally therefore a large amount of traffic has to pass through one or more break-of-gauge transshipment points. The approximate route mileage of railways in India now is as follows:—

Broad gauge	...	14,931 miles.
Metre gauge	...	9,788 miles.
Narrow gauge	...	1,423 miles.
Total	...	<u>26,142 miles.</u>

The broad and metre gauge systems are connected by 53 transshipment points, 31 in North India. 22 in South India. Many of these points handle little traffic and are not, therefore, of any importance, but some handle large volume of traffic and any delay or hold up there may have far reaching effect. Among the larger transshipment points we would include Mokameh Ghat, Benares, Agra East Bank, Sabarmati (Ahmedabad), Ghorpuri (Poona), Bangalore City and Guntakal. We have already seen

tours, heard serious complaints about the restrictions on movement of coal and other traffic caused by the limitations at Mokameh Ghat and Agra East Bank transshipment points. The reasons why these and other transshipment points are unable to handle all the required traffic are usually labour difficulties, shortage of accommodation and difficulties over ensuring adequate wagons of one gauge to carry the traffic brought in by the other gauge—at Mokameh Ghat these difficulties are aggravated by there being a wagon ferry on the metre gauge side.

Further, in addition to delay, transshipment points are a potential source of loss, damage and misdirection. We need not now go into the reasons that have, unfortunately, resulted in India being a two-gauge country. But the fact that large volumes of traffic have to pass through break of gauge transshipment points is already having a seriously restrictive effect on the traffic of the country and we feel that this effect will increase as the country develops unless steps are taken to 'rationalise' the gauge position. It seems possible that the development of the port of Kandla may accentuate rather than ease the gauge question unless the whole problem is very seriously considered. We do not suggest that the whole of Indian Railways are ever likely to be converted to the same gauge—the expense would be prohibitive. Nor do we feel that any decisions can be taken now when the trends of traffic are to some extent abnormal and when the permanent effects of Partition on traffic trends cannot be altogether foreseen. We suggest that in about three years time a small technical committee of senior officers, of the Transportation (Traffic), Civil Engineering and Accounts Departments, should be set up to examine the gauge question generally and to make recommendations for gauge conversion with the object of reducing the number of transshipment points, and the volume of transshipment traffic, and also as far as possible concentrating transshipment traffic at a few stations where suitable mechanical appliances to aid transshipment can be provided. This Committee will naturally take into account the volume of potential traffic passing through each such transshipment point.

At the same time we feel that there is room for improving the performance at the present transshipment points, especially at those involving more than one administration. Successful operation depends on close co-operation and understanding between the authorities controlling movement on each gauge. We have seen cases where such understanding is sadly lacking. The recent experiment at Mokameh involving the appointment of a Liaison Officer there, with power to issue orders concerning the movement of loads and empties to Mokameh, both on the E. I. Railway and the O. T. Railway, is interesting and if found successful might be copied at other suitable places.

113. *Stock Reports.*—In the previous paragraphs we have dealt with some of the reasons for the deterioration in the utilisation of wagons. We have explained the principal hold-ups of goods traffic, delays at terminals and marshalling yards and sectional delays. We consider that good results can be achieved only if a careful watch is maintained on the movement of wagons generally, from the loading point to the point of release and then again to the fresh loading point. We know that a good deal of check is exercised on railways on these movements, and also through the examination of detailed stock reports received by the control headquarters once every 24 hours, which give particulars of goods on ground for booking, actual loading and receipt of traffic by priority classes, unloading work performed during the day, details of type of stock available at stations and also other information of local interest. So far as the Stock Reports go, the information is fairly comprehensive. What is lacking, is the use made of these detailed figures. Perhaps these figures are summarised and scrutinised by Officers every day but until they are compared over a number of days, we do not think that much useful results can be achieved. It is only by a correlation of figures of the different days that one is able to ensure that the stock reports are correct, the orders given to the junctions for supply of stock are carried out correctly, loading and unloading are done promptly by stations. unnecessary delays are not occurring in large Director, Railway Clearing Accounts Office. It is difficult to understand



yards, room on trains for the clearance of traffic is correctly arranged, and so on. We consider that improvement in the control and distribution of stock can be effected only if a careful analysis is made daily and periodically of the actual manner in which the wagons are being employed in each area. It is interesting to note that for approximately 4 hours in the day only, a wagon is on the move. This is a very low wagon user. Improvement in these figures can be achieved by continued statistical analysis which would give the operating officers at a glance the actual utilisation of wagons in any area. How exactly this analysis is to be made is a matter which we would leave to the individual administrations to be devised.\* All railways, we believe, record all the data necessary for such an analysis, but the forms used and the methods of compilation vary from railway to railway. Any attempt, therefore, at standardisation in this respect would seem unnecessary and undesirable.

We would like to stress in this connection the fact that the operating officer must endeavour to ascertain quantitatively how the time of the wagon is spent: when this is done, he will find little difficulty in spotting the weak points and rectifying them. The means for obtaining the information would naturally be through traffic control and an efficient traffic control organisation is, therefore, of great importance.

114. *Standardisation of load of goods trains.*—In 1947, the Railway Board advocated the reduction and standardisation of the load of goods trains with the following objects:—

(ii) increase of speed of goods trains, resulting in reduction of delays to give precedence to passenger carrying trains.

(ii) increased possibility of long distance marshalling;

(iii) improvement of locomotive utilisation and wagon turnround.

A uniform load of 50 wagons or 1,500 tons was recommended.

Though some experiments have been made on these lines, it cannot be said that they have been entirely successful. For one thing, standardisation of loads can only be of limited application. On many sections of line in India, for instance, 1,500 tons is beyond the capacity of the locomotives in use and any large increase in banking or double-heading might be expected to result in worsening of locomotive utilisation. Also, a reduction in load necessitates an increase in the number of trains run to handle a given volume of traffic and will involve the use of more locomotives unless the resulting increase in speed so reduces engine turnround time as to enable the increased number of trains to be worked by the original allotment of locomotives. This may be difficult of achievement. In this connection, we would state that the E. I. Railway made an experiment on the Grand Chord Section (a graded section) and came to the conclusion that the saving in time by reducing the load of trains from 65 to 50 was negligible, and elsewhere also the saving of time was unimportant. On the other hand, with an increase in the number of trains, facilities for reception at and departure from stations and yards would have to be increased. We are inclined to agree with the views expressed by the E. I. Railway and consider that on sections where capacity is already strained, a reduction in load would only increase the railways' difficulties even if it resulted in a small increase in average speed. In any case, Railways should not attempt to standardise loads or speeds of goods traffic on their line but there should be flexibility. Quicker movement can best be achieved by better supervision and analysis and not by an increase in speed or by a reduction in loads.

We do not, however, in any way wish to discount the value of improving goods train speeds: we have in mind what was done on the Bengal Assam Railway main line between Calcutta and Parbatipur in 1944-45 where line capacity was increased and engine turn-round time greatly reduced by improving the speed of goods trains. The section is approximately level, and, therefore, very suitable for the purpose: but

\*N.B. See Railway Board's Quarterly Technical Bulletins Vol. VI—59; Vol. VII—80, 82.

the main factors were the continual watch kept by the Movement and Power Officers and their continued pressure on all staff to move and keep moving. The Officers concerned are still in service on Indian Railways and what they did on one Railway can, we believe, be done also, to a greater or lesser extent, elsewhere on Indian Railways. But reduction of loads formed no part of this drive for higher speeds. We are, therefore, somewhat dubious of the wisdom of recommending any reduction of maximum loads at present.

There are also limits to the value of long distance marshalling. Operating Officers have for many years realised the advantages of marshalling through block loads to distant points, avoiding delays for re-marshalling at intermediate points, but this practice is only of real value when the volume of traffic between the distant points selected is sufficient to enable through block loads to be formed with reasonable frequency; otherwise delay to wagons at the originating yard awaiting completion of a through load may exceed the detention at intermediate yards that would have been incurred if the loads were made up for some nearer destination. We consider that the practice of loading full rakes or half rakes in the coalfields to single destinations is to be commended.

115. *Wagon loads.*—During the war, efforts were made by railways to improve the average load per wagon, by increasing the minimum wagon load conditions attached to the reduced wagon load rates and also by delaying "road vans", until a specified minimum load was obtained: to this aspect we revert later in Chapter VI. Further, owing to the short age of available wagons, both railways and the consignors have attempted to load more in each wagon. Owing to these factors, the average starting load has improved substantially.

TABLE 3.—Average starting load (tons)

Railways	Coal and coke		Heavy Merchandise	
	1938-39	1946-47	1938-39	1946-47
<b>B. G.</b>				
B. N.	20·7	21·3	18·1	19·0
B. B. & C. I.	22·6	...	13·7	14·4
E. I.	20·6	21·3	14·0	16·5
G. I. P.	17·3	21·5	15·1	18·1
M. & S. M.	20·7	20·8	12·1	16·5
S. I.	20·4	19·8	15·2	16·5
<b>M. G.</b>				
B. B. & C. I.	9·18	9·87	8·79	10·3
M. S. & M.	11·7	11·9	8·36	10·4
B. & N. W.	10·5	...	8·86	...
O. T.	...	10·3	...	9·80
R. & K.	10·8	...	11·0	...
S. I.	10·2	10·2	8·16	9·44
<b>Light Merchandise. Average on run</b>				
	1938-39	1946-47	1938-39	1946-47
<b>B. G.</b>				
B. N.	12·2	13·4	16·6	16·6
B. B. & C. I.	9·15	9·84	11·7	14·2
E. I.	7·27	11·1	14·3	15·8
G. I. P.	13·0	13·2	11·7	14·4
M. & S. M.	6·15	9·53	11·1	13·6
S. I.	9·0	9·22	10·2	11·4
<b>M. G.</b>				
B. B. & C. I.	6·04	6·46	6·44	7·75
M. & S. M.	4·65	6·55	6·46	7·73
B. & N. W.	5·02	...	7·10	...
O. T.	...	5·80	...	6·70
R. & K.	7·91	...	9·88	...
S. I.	5·07	6·21	5·68	7·33

There has been considerable improvement in the average load all round. Coal and heavy minerals are permitted to be loaded up to one ton over the carrying capacity and that has helped in improving the average starting load. It has been suggested that the carrying capacity of wagons might be marked up further, so as to secure an even higher load for coal and heavy merchandise. This we would deprecate as a short-sighted policy. The general condition of wagons cannot be regarded as good at present and such essential components as springs and axles are difficult to obtain. Overloading is likely to increase wagon maintenance problems out of all proportion to any advantage that might be gained.

116. *Nominated loading*.—Nominated loading has been in force at some centres for years, though perhaps temporarily suspended during the war. The idea of nominated loading is that certain days of the week are specified for the booking of traffic to particular destinations. This enables the railway to load full vans and sometimes even full trains to points at long distances with resultant acceleration in transit and economy in wagon usage. This practice should be extended. We revert to this subject in paragraph 143, chapter VI.

117. *Scheduling of goods trains*.—There is a sharp difference of opinion as to the value of arranging and printing fixed timings for goods trains. The opponents of fixed timings say that it cannot be made to work and that there are so many causes that can vary the running time of a goods train that printed timings are not worth the labour and expense of preparing them. On the other hand, we found two railways—the B. N. Railway and the S. I. Railway, who use printed goods schedules and who appear, usually, to be keeping their goods trains reasonably closely to their schedules. We understand also that other railways have recently started scheduling goods trains. One of the great advantages claimed for the scheduling of goods trains is that it renders possible the preparation of goods engine links and so assists in obtaining better locomotive utilization. Further, it provides a target for the running staff to aim at. While we realise that scheduling of goods trains by itself is not going to be a panacea for all ills, we consider that there is a good case for extending the scheduling of goods trains on those railways which have not so far adopted this practice.

118. *Examination of wagons*.—One source of delay to trains and wagons has been the meticulous examination of wagons which takes place at junctions of interchange between railways. In the early days, the system of examination was what is known as "Dual control". Each Railway working or using a junction maintained a separate set of staff for repairing wagons and making good defects and deficiencies. Later, this cumbersome and expensive procedure was replaced at a number of junctions by "Single Control" under which the whole of the repair work was placed in the hands of the railway working the junction. In most cases, the "offering railway" was billed for deficiencies, but at some junctions no billing took place, it being felt, and with reason, that it was waste of time and paper to add up a large number of small debits between Government Railways. As some railways were not altogether prepared to trust "Single Control", the system of "Neutral Control" and "Single repairs" was introduced. This involved the appointment of "Neutral Examiners" working under the direction of the Director of Wagon Interchange, and the repair staff, provided by the working railway, carried out repairs or made good deficiencies as directed by the "Neutral Examiner".

Neutral control proved certainly more effective but its great disadvantage was that it took almost two hours and sometimes more to examine one goods train. This delay was commented upon caustically by the Inglis-Appleton Mission early in 1944 and they recommended that "general inspection should be limited to a 'fit to run' standard". In other words, a rapid examination was to be made to check not boxes, broken springs and other major defects likely to result in an accident and that no effort should be made to record minor deficiencies. Accordingly, the Railway Board, in April 1944, issued orders to the Broad Gauge Railways and the Conference Rules with regard to the time-limit for examination was

reduced to one hour per train. Later, towards the end of 1945, it was reported that the general condition of wagons was deteriorating rapidly and with the concurrence of the Railway Board Neutral control was re-introduced at all junctions where it had previously been in force. Further, neutral control was to be extended to other junctions of interchange as well, as soon as suitable staff could be found. In our view, the essential object to be aimed at is that wagons should be maintained in the best condition that may be economically feasible from one shop repair to the next: this postulates frequent petty repairs, replacements and attention, on the principle that "a stitch in time saves nine". The condition of a wagon at the time when it may happen to pass from one Indian Government Railway to another is not, in itself, of any special importance. At the same time, there should be no undue delay in the examination of wagons at interchange points.

To secure a good general standard of maintenance and at the same time economical employment of Neutral Control staff, it is recommended that such staff should be located at points where large numbers of wagons are dealt with daily and where there are adequate facilities including holding capacity to enable defects and deficiencies disclosed by the neutral examination to be made good. Points that suggest themselves to us are Moghalsarai, Ondal, Adra, Bhusaval, Baroda and Tondiarpet. The number of wagons passing daily through these yards is generally greater than that passing through many interchange points and the Neutral Control could therefore do more concentrated work. Our proposal would also enable Railways to concentrate their stocks of minor items for making good deficiencies rather than distributing them as at present to a large number of points.

It is believed that the yards suggested comply with these conditions: on the other hand, few interchange junctions do. The proposal is, therefore, that neutral control junctions should be selected on the basis of the traffic dealt with and the available repair facilities; the question whether such a junction is or is not an interchange point is unimportant. The number of such points should be governed partly by the availability of Neutral Control staff and partly by the general condition of wagons: there is a better case for spending extra money on Neutral Control staff, so as to ensure more frequent thorough examinations, when the general condition of wagons is poor, as at present, than when it can be regarded as generally satisfactory. The Neutral Control junctions should be distributed between the railways in such a way as to ensure that the work done by each railway is roughly equivalent to the wear and tear sustained on that railway. No attempt at meticulous accuracy in this respect is necessary. Other interchange points should then revert to Single Control without hilling, on a 'safe to run' basis.

#### D. Operation of Passenger Traffic

119. *Increase in passenger traffic and overcrowding.*—Unlike goods traffic the growth of passenger traffic during and after the war has been startling. In the year 1946-47, 1050·7 million passengers were carried 38,177 million miles as against the 492·6 million passengers who travelled 17,203 million miles in 1938-39, giving increases of 113·3 per cent. in passengers carried and 121·9 per cent. in passenger miles. This great increase has been accomplished at a cost of very serious overcrowding. There is no need to describe the overcrowding that we have seen during our tours; nor is it necessary to dilate on the discomfort and danger to passengers caused by overcrowding, nor on the loss of earnings caused by increased ticketless travel, as so many trains are at present almost 'uncheckable'. In paragraphs 62 and 63, Chapter IV we have attempted to calculate the extent of overcrowding on passenger trains on a statistical basis.

120. *Shortage of passenger stock.*—The reason for the present overcrowding is easily found and that is shortage of passenger rolling stock.

In March 1939, Class I Railways had 9078 passenger coaches on the broad gauge and 6672 on the metre gauge; in March 1947, these figures had come down to 8471 on the broad gauge and 6138 on the metre gauge. The figures are for actual public passenger carrying vehicles; military cars, dining cars, saloons and reserved carriages have been excluded. Out of the above figures, approximately 1852 broad gauge and 843 metre gauge passenger carrying coaches have been given over to the Pakistan Railways so that the stock remaining on Indian Railways after partition was about 6619 broad gauge and 5295 metre gauge coaches.

But this is not all. On the 31st March 1947, there were 2182 broad gauge and 1595 metre gauge bogie coaches over 30 years old, and therefore considered as due replacement (excluding B.A. and N. W. Railways). This amounts to a quarter of the broad gauge stock and more than a quarter of the metre gauge stock. Probably many of these coaches are in such a condition that they have a number of years of useful life ahead of them. But these figures show how serious the position is; a large replacement programme must be carried out during the next few years even to maintain the available coaching stock at the present very inadequate level. In the years 1946-47 and 1947-48 comparatively little could be done towards replacement of old coaches or making additions to the existing stock owing to delay in obtaining underframes ordered from Australia and difficulties over supply of timber and various minor but essential fittings such as water piping. The present outlook is brighter. 222 broad gauge bogie underframes ordered from Australia have all arrived; of these 48 have been allotted to Pakistan Railways and an Indian State Railway, leaving 174 for Indian Government Railways. Wooden bodies for these are being built in Railway Workshops at present and it is hoped that all of them will be in traffic by the end of the present financial year. Further, 744 broad gauge bogie underframes are on order with TELCO and the Wagon Manufacturers' Pool. Of these, 580 are allotted to Indian Government Railways. Unfortunately, however, the steel supply position is so uncertain that it would not be safe to prophecy the rate at which these underframes will be delivered. 280 all steel bodies have been ordered for these underframes, 100 from the Hindustan Aircraft Co. Ltd., and 180 from the Wagon Manufacturers' Pool. Again, delays in the supply of steel and difficulties about certain imported fittings such as electric train lighting generators make the future delivery programme uncertain. Wooden bodies will be built in Railway Workshops for the balance of 300 underframes.

For the metre gauge 100 bogie underframes have been ordered from Australia and are now arriving; 87 of these have been allotted to Indian Government Railways. Orders have also been placed for a further 363 bogie underframes with TELCO and the wagon Manufacturers' Pool, of which the Indian Government Railways' share will be 136. Wooden bodies for these will be built in Railway Workshops. It is not at present possible to estimate how many of these will be placed in traffic during 1948-49. (See Appendix XXVI.)

Generally, we feel that this shortage of passenger carrying stock is one of the most acute problems on Railways at present and is far more serious than a shortage of wagons or any other construction requiring steel. We would, therefore, recommend that the provision of steel for carriage underframe and body construction should receive the highest priority, even at the expense of wagon construction, so that the production of carriages at present on order may go forward without interruption or delay. In this connection refer to paragraph 84, Chapter IV. We have already stressed this need in Chapter III. We trust also that import restrictions will not be allowed to delay the supply of electrical and other components which are not at present produced in this country.

121. *Suburban traffic.*—It is necessary to consider separately what has been happening on the electrified suburban sections of the G.I.P., B.B. & C.I., and S. I. Railways. On these sections, the increase in passengers

carried has been particularly startling, as the following figures show:—

TABLE 4.—*No. of Passengers* (Passengers in thousands)

Railways	1938-39	1945-46	Increase %	1946-47	Increase %
B., B. & C. I.	47,595	112,085	136	113,685	139
G. I. P.	33,568	98,016	192	97,847	192
S. I.	8,491	25,353	201	24,403	187

In 1946-47, the three railways owned the same amount of suburban multiple unit rolling stock as they did in 1938-39, though carrying capacity was to some extent increased by the conversion on the B. B. & C. I. Railway of certain upper class coaches to third class. Over-crowding is serious though probably less serious than on many steam worked sections. It may be noted that the B., B. & C. I. Railway have an advantage in that all of their suburban stock is 12 feet wide. On the G. I. P. Railway also approximately 25 per cent. of the stock is of 12 feet width, the remainder being of 10 feet width.

This wider stock has a higher percentage of standing accommodation to seats, so raising the 'crush load' of the vehicle by a large proportion than the 20 per cent increase in width.

The improvement in financial results has been distinctly satisfactory, as the following figures indicate:—

TABLE 5.—*Earnings from suburban traffic*

Railways	Year	Earnings per train mile	Cost per train mile
		Rs.	Rs.
B., B. & C. I.	1938-39	1 65	1 12
	1945-46	4 46	1 25
	1946-47	4 29	1 30
G. I. P.	1938-39	1 32	1 76
	1945-46	3 97	1 42
	1946-47	3 71	1 39
S. I.	1938-39	0 80	0 57
	1945-46	3 19	0 75
	1946-47	3 04	0 86

Orders have been placed in England for 112 additional suburban electric coaches for the Bombay Railways. These will all be 12 feet wide and built to an improved design. Unfortunately, it is unlikely that any of this new stock can be on the line before the beginning of 1950, but the good results now being obtained with the present stock, inadequate though it may be, indicate the great possibilities of multiple unit electric trains for intensive suburban traffic.

**122. Speed and Punctuality.**—The extent to which speed and punctuality suffered during and since the war years can be seen from the following table:—

TABLE 6.—*Speed and Punctuality of Mail and important through trains*

Railways	March 1937		March 1939		March 1945	
	Speed	Percent not losing time	Speed	Percent not losing time	Speed	Percent not losing time
B. G.						
B. A.	29.0	76.6	26.4	51.6	24.5	68.0
B. N.	24.9	60.1	23.3	56.6	19.9	60.9
B., B. & C. I.	30.5	88.4	30.8	84.5	26.8	57.7
E. I.	32.4	75.9	30.4	59.9	25.0	73.6
G. I. P.	31.7	79.9	32.3	71.1	23.2	61.4
M. & S. M.	27.6	79.6	26.9	78.8	24.8	70.0
N. W.	24.3	87.1	23.8	91.2	21.2	71.1
S. I.	22.9	90.7	23.9	87.1	23.7	74.7

## V. OPERATION—PASSENGERS

Railways	March 1947		March 1948	
	Speed	Per cent not losing time	Speed	Per cent not losing time
B. A.	27.6	50.2	..	..
B. N.	22.5	45.5	22.5	31.3
B., B. & C. I.	27.7	48.9	27.9	28.2
E. I.	27.5	54.2	27.4	64.3
G. I. P.	29.0	60.6	29.2	50.7
M., S. M.	24.5	48.4	24.0	74.2
N.W.	23.8	65.0	..	..
S. I.	21.9	70.3	21.9	45.2

Railways	March 1937		March 1939		March 1945	
	Speed	Per cent not losing time	Speed	Per cent not losing time	Speed	Per cent not losing time
M. G.	..	..	..	..	..	..
B., A.	23.3	75.8	24.7	66.1	18.5	39.4
B., B. & C. I.	21.5	74.1	22.9	74.4	23.0	77.4
M. & S. M.	20.6	84.3	21.6	89.1	19.6	68.8
Mysore	..	..	19.8	61.1	17.7	22.6
O. T.	19.4	65.6	20.1	72.3	21.5	74.4
S. I.	18.6	83.9	18.7	96.0	18.8	66.4

Railways	March 1947		March 1948	
	Speed	Per cent not losing time	Speed	Per cent not losing time
B. A.	19.4	60.5	..	..
B. B. & C. I.	22.8	23.4	21.7	26.6
M. & S. M.	19.5	69.4	19.7	59.1
Mysore	17.1	37.2	17.4	29.4
O. T.	21.5	44.6	21.5	73.3
S. I.	19.3	51.0	19.1	46.6

March 1937 represents Indian Railways at about their best, before any deceleration following the Bihta accident occurred; March 1939 shows the position shortly before the war; March 1945 gives the figures for a representative month before the capture of Rangoon started to ease the pressure of military traffic; March 1947 shows the position before partition, and the figures for March 1948 are the latest available.

These figures make melancholy reading; pre-war, nothing under 80 per cent punctuality could be considered good; in March 1937, three B.G. and two M.G. railways passed this figure; in March 1939, the same three B.G. and M. G. Railways did better than 80 per cent. But in March 1945, only four B.G. and two M. G. Railways could improve on 70 per cent, and in March 1947, deterioration had proceeded further and only three B.G. and two M.G. Railways passed 60 per cent. The 1948 figures unfortunately show further deterioration, except on the E.I. and M. & S. M. Railways. We have also seen some punctuality figures for months subsequent to March 1948. While there has been welcome improvement on some railways, there has been a falling off in the case of others. We do not feel justified in saying that the corner has been turned and that the punctuality is generally improving.

It must, however, not be overlooked that the loads of trains have increased greatly during the war; in 1938-39 the average gross weight of broad gauge passenger trains, including engines was 382 tons; in 1944-45 the weight had increased to 534 tons and in 1946-47 it fell to 466 tons. On the metre gauge, the position has been similar, corresponding figures being 213 tons, 319 tons and 258 tons. Many other factors have contributed to this deterioration in punctuality; overtime at stations for dealing with increased parcel traffic and for watering carriages, inferior coal, more frequent pulling of communication cords by passengers, the 'infectiousness' of unpunctuality in that one late running train delays others.

But while these may be reasons for the deterioration in punctuality, we cannot regard them as adequate excuses. The basic fact is that there has been a serious falling off in the energy and application shown by staff of all grades, including supervisory and superior, in obviating or minimising delays to important trains. This is part of a general problem which we discuss in paragraph 102.

One other factor which is affecting the punctuality at present is that on the recommendation of the Pacific Locomotive Enquiry Committee of 1938, the X Class Pacifics have been relegated to slower passenger or goods services on all railways other than the B. B. & C. I. Railway. This question, we have considered in paragraph 90, Chapter IV.

It does not seem necessary at present to make any very definite recommendation on the subject of the speed of trains; clearly the first essentials are to restore a reasonable standard of punctuality and to increase train services so as to reduce overcrowding. Also a large amount of deferred engineering works in the way of relaying and bridge rebuilding or regirdering will be in hand during the next three or four years. These works, involving local temporary speed restrictions, would of themselves render impossible the complete restoration of pre-war schedules. But efforts should be made gradually to revert to 1939 speeds; this will show the public that the railways are really determined to give good service, and also it has not infrequently been found that acceleration of a train leads to improved punctuality.

#### E. Control Office Organisation

123. The Inglis Appleton Report laid great stress on the importance of improving the control organisation on railways and we are glad to note that to a great extent this advice has been taken to heart. Improvements in the tele-communication system have been carried out or are in hand and we have been told that the future controllers are being more carefully selected and better trained. Some of the controllers, we have observed, are merely recorders; there is reluctance on their part to take chances, and hardly any planning is done. We consider this unfortunate and we hope that in the future with better selection and better training of controllers such instances would be rare. As regards the selection of controllers, the G. I. P. Railway has started a scheme under which direct recruitment of controllers is made and they are given training partly in the Railway Training School and partly at large stations for three years. It is yet too early to judge the effect of this system of recruitment, for, on all other railways, the controllers are selected from among the existing Transportation staff. We would, therefore, at this stage refrain from passing any remarks on this method of recruitment.

We have observed that during the period of the day when the stock reports are collected, the sectional control wires are burdened with a large number of messages and train control becomes almost impossible. On some railways a subsidiary circuit exists between important stations for the passing of stock and other messages, and we believe that an increase in the number of such circuits is already in hand. We have, therefore, no further recommendations to make. We can only hope that this drive to improve control working will not be allowed to slacken off as there is room for further improvement.

We have found that in a number of cases control circuits have been divided and subsidiary control offices opened at stations away from the main control office. This, we are told, has been done to improve reliability, as in the past some of the longer circuits proved unreliable. We feel that this practice may be overdone: the object should be to control the whole of a division or district from one office at the headquarters station. Subsidiary controls at outstations may be the cause of delay and reduction in operating efficiency as they cannot be under the eye of the Executive Officer. In some cases the Post and Telegraph Department has been unfairly blamed for the unreliability of long circuits. On some railways, the office and station control equipment is neither modern nor well maintained.



We would only reiterate what the Inglis Appleton Committee recommended that "Many control offices are housed in unsuitable premises, the tables are crowded together and conversation by telephone made difficult by raising of the general noise. The artificial light in many offices also requires attention so that the lights may be sited over each table".

We have stressed elsewhere the urgent need for meticulous check of charts not only for one day but over a long period and against not for one section only but for a whole length of line. On some railways, in order to achieve this object, an Assistant Officer has been placed on special duty whose primary work is to check charts and initiate action. On such railways the number of Assistant Officers has not generally increased but the beats of the other Assistant Officers have been expanded. We do not recommend such a practice, as we feel that by increasing the section, supervision would undoubtedly suffer. Further, the Assistant Officer will only be performing a duty, which we consider is properly the responsibility of the Chief Controller. Where, however, technical reasons demand decentralisation of control offices, it might be advantageous to post an Assistant at the station where the subsidiary control office is situated; he will act for the Divisional or District Officer in times of emergency.

### F. Locomotive Operation

**124. Power Utilisation.**—One of the most important and difficult subject the Committee have had to enquire into is the question of Power Utilisation. When the subject of moving more traffic is raised, the complaint of 'Power Shortage' is very frequently heard; we had, therefore, to consider whether the country was really short of locomotives, or whether the trouble was that the available locomotives were not being sufficiently intensively used; in other words, was the maximum possible mileage being obtained from the engines on the line?

From the analysis of the adequacy of locomotives made in Chapter IV, it is clear that the Indian Railways are not at any rate short of their requirements of locomotives to move the traffic that has been carried lately. Had the standard of utilisation and efficiency continued at the best figures hitherto achieved, there would have been a fairly large surplus of locomotives. The complaint of "power shortage", therefore, arises not through the actual shortage of locomotives on railways but through uneconomical working. In this connection, the following table will be of interest. The years 1925-26 and 1929-30 have been taken because the first indicates the position at about the time the E.I. and G. I. P. Railways came under State management and the second represents the last year before slump conditions became serious. From 1937-38 figures for each year are given up to 1947-48:—

TABLE 7.—Miles per day per engine on line (steam)

Railways	1925-26	1929-30	1937-38	1938-39	1939-40	1940-41	1941-42
<i>B G.</i>							
B.A.	58	75	91	93	94	92	93
B.N.	62	75	83	86	92	96	102
B., E. & C. I.	63	68	66	65	68	71	74
E.	66	71	74	77	77	77	79
G. I. P.	52	64	83	88	93	98	102
M. & S. M.	67	75	81	82	81	81	89
N. W.	49	71	71	73	72	78	83
S. E.	53	73	86	88	83	86	91
<b>B. G. Total</b>	<b>58</b>	<b>71</b>	<b>77</b>	<b>79</b>	<b>81</b>	<b>83</b>	<b>87</b>
<b>Total locomotives</b>	<b>6440</b>	<b>5818</b>	<b>5193</b>	<b>5164</b>	<b>5140</b>	<b>5134</b>	<b>5135</b>

TABLE 7.—Miles per day per engine on line (steam)—contd.

Railways	1942-43	1243-44	1944-45	1945-46	1946-47	1947-48
<i>M. G.</i>						
B. A.	90	86	83	80	76	..
B. N.	96	92	86	88	89	89
B., B. & C. I.	67	69	67	68	72	67
E. I.	67	65	67	64	61	58
G. I. P.	98	94	94	95	96	91
M. & S. M.	85	84	88	86	79	79
N. W.	72	71	73	76	74	..
S. I.	81	77	78	78	71	80
B. G. Total	79	77	77	77	75	...
Total Locomotives	5158	5156	5302	5357	5895	4469*

Railways	1925-26	1929-30	1937-38	1938-39	1939-40	1940-41	1941-42
<i>M. G.</i>							
B. A.	60	72	79	84	83	82	82
B., B. & C. I.	62	66	62	64	67	67	68
M. & S. M.	68	77	72	74	76	69	78
Mysore	..	..	..	83	87	90	91
O. T.	72	76	87	86	83	84	95
S. I.	59	73	79	80	75	77	82
M. G. Total	63	73	75	76	78	77	81
Total Locomotives	2108	2132	2167	2141	2145	2163	2091

Railways	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
<i>M. G.</i>						
B. A.	73	71	69	63	62	..
B., B. & C. I.	71	67	62	62	64	53
M. & S. M.	82	81	83	84	83	82
Mysore	79	79	84	83	80	78
O. T.	79	83	75	77	74	71
S. I.	61	55	56	58	65	78
M. G. Total	73	72	69	69	70	..
Total Locomotives	1985	2040	2313	2435	2435	1804*

\*The figures are for the post-partition stock.

It will be seen that on the Broad Gauge the number of steam locomotives steadily dwindled until 1940-41, when the total stock was 20 per cent less than that in 1925-26. On the Metre Gauge, however, the stock of engines did not vary greatly between 1925-26 and 1941-42. In 1942-43 an important reduction occurred, owing to the transfer of engines to Iraq. After 1942-43, the available stock of engines on both gauges mounted steadily as a result of the importation of new locomotives, chiefly from the United States and Canada.

But it will be noted that utilisation has moved inversely to the total stock. On both gauges, the miles per day per engine on line improved steadily until the peak year of 1941-42. Since then there has been a falling off, and between 1941-42 and 1946-47 on the broad gauge, locomotive stock increased by 14·8% and utilisation decreased by 13·8 per cent;

corresponding figures for the metre gauge were 18.5 per cent and 13.6 per cent. This shows the very close relation between stock and utilisation that has prevailed. For various reasons, which we have examined, railways generally have not made as good use of their augmented locomotives stock as they did in the year 1941-42, when the shortage of locomotives was serious. On our tours the Transportation (Power) Officers have stressed the point that their endeavour to improve utilisation of locomotives has been made difficult through the increasing age of the locomotives. In paragraph 89, Chapter IV, we have pointed out that 21 per cent of the B.G. and 34 per cent of the M.G. stock of locomotives require replacement on a 40 year age basis. It is true that these figures are large, but we are not convinced that this reason can explain satisfactorily the very large deterioration in the locomotive utilisation that has taken place lately. Certainly the engines that were in use in 1941-42 are now seven years older than they were then, but since then numbers of new engines have gone into service, equivalent to 15 per cent of the 1941-42 stock on the broad gauge and to 22 per cent on the metre gauge; the average age, therefore, of all the locomotives now in service is probably not very different from what it was in 1941-42. It has also been suggested that the high mileages achieved during the war years were obtained at the cost of deferred maintenance and that such good results cannot again be attained until all arrears of maintenance have been made good and until repair facilities in sheds are improved. There is substance in this, but we cannot regard it as an adequate excuse for the disgracefully low mileages at present shown by some railways.

Another factor which has been pointed out is the diversity in the types of locomotives that have been in use on each railway. We realise that this makes the task of repairing them in sheds and shops more difficult. But this is a factor which is by no means a new one and cannot explain satisfactorily the deterioration that has taken place lately.

Study of the figures in Table 7 indicates how two railways stand out clear above all the others: the Great Indian Peninsula Railway and the Bengal Nagpur Railway. These two railways have the best figures for each year from 1940-41 onwards, except in 1944-45 when the Madras and Southern Mahratta Railway beat the Bengal Nagpur Railway into second place, and both share the honour of putting up the all-time Indian record of 102 miles per day per engine on line in the year 1941-42.

We next examine what differentiates the system of working on these two railways which enables them to produce and maintain utilisation figures superior to those of other Indian Railways. The answer is complete pooling of locomotives.

It would be desirable here to trace the history of pooling. In earlier days, say twenty years ago, all railways were working on the 'assigned engine' system, that is to say, each driver was allotted his own engine and it was only if the regular driver was sick or on leave that any one else drove it. The advantage of this system was that each driver knew his engine intimately and was, therefore, able to drive it to the best advantage; also he was much more certain to notice minor defects than would a 'casual' driver, so that on the one hand failures were reduced, owing to incipient trouble being noticed early, and on the other repairs were reduced, because the driver only 'booked' what he knew really needed attention: no driver likes his own engine 'messed about with' unnecessarily: while there is a tendency for a 'casual' driver to 'hook' a large number of repairs, as a precaution against blame if trouble develops on the engine after he has handed it over.

These are solid advantages and there is no question that in the days before 'pooling' started the general standard of maintenance was very high and locomotive failures occurred very rarely indeed. But as the figures for the year 1925-26 show, the utilisation was very poor, the miles per day per engine on line on the best B. G. Railway being little better than those for the worst railway in 1945-46. In other words, an unnecessarily large number of expensive machines were maintained for the haulage

of the train service. The locomotive has much greater endurance and needs less rest than the human machine. When an engine reaches the end of the crew's run, the crew need rest, but the engine should be fit for at least two or three times the distance before it needs to go to the shed again, and when the engine does go to the shed it should, with efficient management, be turned, coaled, lubricated, examined and made ready for its return journey in 3 or 4 hours, while its crew need 8 to 12 hours rest according to the time that they have been on duty. These considerations have led to the gradual giving up of the 'assigned engine' system and the substitution of 'pooling' or, in other words, making the engines 'common user' and liable to be driven by any driver who is qualified to take the type of train and type of engine concerned.

Pooling may be of two types: there is first, what we may call 'straight pooling', in which engines are confined to the same length of run as if they were 'assigned', but are 'turned round' both at the 'home' and 'out' stations, as fast as shed facilities permit and traffic requirements demand, and are in each case taken out by the crew 'next on turn': secondly, we have the 'extended engine run' system, where an engine works one train for a long distance without going to shed, the crew being changed at selected stations on the way. 'Straight pooling' has the advantage that the home shed staff get their engines back very frequently and have a good chance to 'keep an eye' on any weak points; on the other hand, straight pooling does not give much improvement in engine user except on sections where the traffic is reasonably dense and the engine, on arrival at destination, is fairly sure to get a train to work back after a short interval. On lines with lighter traffic 'extended engine runs' are the only means of improving utilisation. The principal pooling railways, particularly the Bengal Nagpur Railway, use a combination of both systems.

On the other hand pooling does introduce certain problems that, if they are not satisfactorily solved, may negate the advantages. Firstly, if an engine, after leaving its home shed is to travel, perhaps, over a thousand miles before returning, during which run it is driven by a number of crews, it must be turned out in first class mechanical order. This means that suitable repair facilities and staff must be provided at each pooling home shed. We shall not attempt to itemize the minimum repair and maintenance facilities necessary for successful pooling: they must vary with the number of engines shedded and to some extent, with the distance of the shed from the headquarters mechanical workshops. Further, successful pooling postulates adequate inspection staff at sheds and also the observation of a proper fixed routine of examination. For the reasons we have given above, a driver's report on a 'pooled' engine is not enough by itself; there must be a joint report by the driver and the shed inspection staff.

Reports have already been submitted to the Board by Mr. Ramchandran, who was placed on special duty in 1947 for the purpose of making detailed recommendations as to the improvements that should be made at sheds in order to make possible intensive locomotive utilisation. This report has been dealt with in Chapter IV.

We must again stress the point that 'pooling' to be successful, must follow and not precede the building up of proper shed facilities and a suitable organisation. On some railways 'pooling' is unpopular: that can usually be traced to an attempt to introduce pooling in an emergency and without preparation: in such cases the cure may be worse than the evil.

As far as we can find out three railways have fully organised pooling systems at present; the G.I.P., B.N. and M. & S. M. Railways: on other railways there is either partial pooling, or no pooling at all. We must press, as one of our main recommendations, that all railways that are not yet completely pooled, should work out their own schemes for the introduction of 100 per cent pooling, and that the three railways that, are fully pooled should consider how they can do even better than they have done in the past.

The saving would be substantial. We have dealt with the question of locomotive requirements on railways and their utilisation in greater detail, in the previous chapter. It is enough to point out here that if the All-India Broad Gauge figures of miles per day per engine on line could be raised from 75, the 1946-47 level, to 90, a very modest increase, and the locomotive stock proportionately reduced, the saving in interest charges alone would exceed a crore of rupees annually. Alternatively, there would be sufficient locomotives spare to provide for an additional 25 to 30 million train miles annually.

And we see no reason why the target should always be 90 miles per day per engine on line; when any railway has reached this it should fix its target at 100 miles per day. After all, what the B. N. and the G. I. P. Railways achieved in 1941-42, surely other railways can at least hope to approach.

It is interesting to compare the methods employed by the Bengal Nagpur Railway and the G. I. P. Railway to secure the best results from pooling, they differ in almost every particular.

The B. N. Railway set out by limiting the size of their main sheds to about 85 to 90 engines each, believing this to be about the maximum that can be efficiently looked after and maintained by one shed. They also schedule all their goods trains and work all main line goods engines in 'links'; some of them over very extended lengths, *e.g.*, Adra to Rajahmundry and Khargpur to Nagpur. This has great advantages; it enables a close co-ordination to be obtained between line and power capacity; power control is simplified and the shed has a definite target to work to, *i.e.* 100 per cent. link efficiency. The G. I. P. Railway, on the other hand, never scheduled their goods trains until a few months ago and work their goods engine on the 'first in first out' principle. They rely on power controllers in the control offices to maintain liaison between the Train Control Staff and the Shed staff; to minimise out-station delays; and to maintain proper distribution of power over the division. The G. I. P. Railway also have much larger concentrations of locomotives at two sheds, Bhusaval and Jhansi, than what the B. N. Railway consider good practice.

We have so far referred only to pooling inside the confines of each railway system. We suggest that eventually extended engine runs should be developed, at least with through mail and express trains, to cover running over more than one railway. There is no obvious obstacle to prevent one engine running mail trains through from, say, Igatpuri to Howrah, or Poona to Madras. These trains are already mainly worked now by locomotives of the same general type, but the discretion given to railways in the past to modify the BESA locomotive designs by the inclusion of their own preferences in the way of lubricators, injectors, feed water heaters and other fittings, tend to make it difficult for a driver of one railway to drive an engine of another railway without a period of tuition. With the gradual introduction of the new standard WP locomotives on all the Indian Government Railways, this difficulty should disappear and we definitely recommend as an objective the establishment of trans-Indian runs of up to, at any rate, 1250 miles without change of engine. We base this figure on the distance an engine can reasonably be expected at present to run without a boiler washout or water change.

We have twice visited Bhusaval as we considered it necessary to examine what is, we believe, the shed at which the largest concentration of engines in India are shedded. At the time of our visit the number of engines housed at Bhusaval was 195, but at one time the number was, we believe, as high as 240. The general impression one receives at Bhusaval is that the organisation is a good example of what not to do: the locality has an unpleasant climate and is unhealthy, not at all a desirable station for a large number of staff: the shed is very dark, making examination inside the shed difficult: the shed contains eight long lines, so causing some risk of 'fit' engines being immobilized by other engines under repair or washout: the yard layout is poor so that it often takes an engine up to 6

hours to reach the shed, in spite of improvements carried out in 1943-44: there are no coaling cranes or other mechanical plant for coaling engines: the very open nature of the shed area and the large concentration of engines, leads, we were told, to wholesale pilferage of parts. The organisation also is not above criticism: this we have dealt with in Chapter IV. But it works. The Bhusaval divisional figures for miles per day per engine on line were 113 for 1945-46 and 111 in 1946-47: even in 1947-48, in spite of difficulties arising out of transfers of staff, the figures was as high as 107. We doubt if any other division in India approaches this figure and it should be noted that this division is responsible for more than 8.6 million engine miles annually, which is more than the whole of the B.B. & C.I. broad gauge engine mileage. The Bhusaval organisation certainly has its defects, but we do not feel that the principle of large concentrations of, say, 200 locomotives at one shed stands condemned. However, under the present conditions, when supervision is so inadequate and lax and the quality of the work turned out at sheds has deteriorated, we would not recommend any further large concentrations of locomotives.

We think we have gone far enough to answer definitely the question with which we started our consideration of power utilisation. The country is not short of locomotives. There may be some shortage of individual types, and numbers of old and inefficient engines that should be replaced, but there is no general shortage, and the indications are that the addition of more engines may lead to a worsening of utilisation.

We recommend an all out drive to improve utilisation by the general introduction, after necessary preparation, of locomotive pooling on all railways where complete pooling is not already in force. But this must also be accompanied by a general overhaul of yard and terminal working. The two must go together. It would be futile to gear up the Power side to run more trains if the Movement side cannot accept them freely into yards and stations.

**125. Additional Locomotives.**—Table 7 shows that in the five years from 1942 to 1947 the number of broad gauge locomotives has increased by 760 and the metre gauge total has increased by 344. In addition, we understand that there are 650 new broad gauge engines on order, 400 passenger and 250 goods, and also 91 metre gauge—58 passenger and 33 goods. We believe that the Board have decided that these new engines as well as those that have been put on the line in recent years, are to be regarded as replacements and that the details of the locomotives to be replaced have been agreed between the Board and the Railway administrations. It would appear that so far little has been done to withdraw for scrapping those engines which are regarded as 'replaced' and are therefore now duplicate stock. We recommend that, except in special circumstances, replaced engines should be withdrawn. Most of these engines are old and expensive to maintain and cannot generally have much useful life left. But as long as the total available stock is allowed to mount there will not be that immediate urge to improve utilisation which we regard as essential.

**126. Locomotive Coal Supply.**—Next we come to the problem of coal. At one time each railway, through the Chief Mining Engineer (Railway Board) distributed their annual orders amongst a limited number of collieries, and arranged that the coal supplied by each colliery went to certain nominated sheds. Each shed had perhaps not more than 5 or 6 types of coal on hand; one or two types of mail coal, one or two goods train coals and one or two lower grades of coal for shunting purposes. Drivers, therefore, got the same type for the same work from day to day and learnt how to use that particular variety to the best advantage.

With effect from 1st June 1944, the Coal Commissioner assumed the responsibility for the production and distribution of coal and the Chief Mining Engineer (Railway Board) and the Controller of Coal Distribution with their respective staff were absorbed in a new organisation which was set up under his control. The Indian Railways became one of the many consumers and the Coal Commissioner had to allot coal to railways keeping in mind the raisings and the needs of industries of this country and

other lay-consumers. Due to the urgent demand for metallurgical coal for war and other industries, the use of good coal had to be restricted on railways; and the Coal Commissioner naturally distributed coal in accordance with this policy. The result has been that railways have been asked to take a much greater proportion of poorer grades from whichever colliery feasible and it is not unusual now to find a shed with coal from 30 or more different collieries on hand at the same time. Coal from different collieries has different properties and engine crews have to change their firing technique even if the coal be of the same grade according to the specifications. Therefore, the supply from different collieries to the same shed at the same time has greatly increased the difficulties of the engine crews and they have no clear idea of the quality of coal they will get on their engines from day to day.

The Indian Coalfields Committee, *inter alia*, recommended that—

- (1) the use of good coking coal be restricted and its use by railways prohibited;
- (2) the railways be given good non-coking coal of like calorific value for burning on their mail and passenger services and grade II coal for goods services; and
- (3) future locomotives should be designed to burn coals of high ash content.

It has been estimated that while the reserves of coal of inferior quality (grades II and III) are very large, reserves of selected grade and grade I coal are limited, especially in the case of coking coal. Therefore, in terms of the recommendation of the Indian Coalfields' Committee, the Railway Board had to take up the question of conservation of this kind of coal in the national interest.

The Chief Controller of Standardisation (Railway Board) carried out some tests with coking and non-coking coal and thought that no serious difficulties might be anticipated in the change over from coking to non-coking coal provided it is gradual as firing technique will have to be changed to 'light and often' firing and the running staff's objection to the change in coal overcome. This suggestion was made with the full knowledge of the recommendation of the Coalfields' Committee that the use of good coking coal must be prohibited on railways. This does not mean that the use in locomotives of non-coking coal of the same thermal capacity is just as efficient as that of the coking coal.

In view of the results of an investigation by the Chief Controller of Standardisation, we concur with the recommendation of the Indian Coalfields' Committee that the use of good coking coal on railways should be restricted with the proviso that the change-over should be gradual and not sudden or premature. This recommendation has been made in the larger interest of the country though we are aware that it is likely to result in a higher expenditure on fuel.

The position is, however, different in the case of low grades of coal on heavy duty locomotives. So far as we are aware, there are no locomotives in India at present that can be made to steam sufficiently well to perform heavy duty on grade III coal, *i.e.*, poorer grade of coal with comparatively high ash content, and, therefore, the use of such coal on locomotives will lead to serious difficulties. We have evidence before us that the use of such coal by railways has already affected the efficiency of locomotives and led to a number of engine failures. This in turn has reacted on the transportation ability of railways as a whole which has affected the entire industrial and other developments of the country, including the movement of coal itself. The Chief Controller of Standardisation has made some experiments on the use of lower grades of coal with higher ash content and it will be some time before new designs of locomotives are finalised and such locomotives put on the line. Until, therefore, such locomotives are available it would be suicidal to expect the railways to use poorer grades of coal. We, therefore, do not recommend that railways should be made to accept lower grades of coal with higher ash content.

in excess of what they can absorb on 'lighter duty' engines until designs of locomotives on railways are so modified as to enable the efficient use of such coal. The supplies of grade III coal to railways should be limited to the amounts that can be consumed for shunting, pumping, brick-burning and ancillary purposes. We suggest that investigation and research into this matter should be continued, but any premature effort to use inferior grades of coal on locomotives will defeat its own object by actually reducing the capacity of the railways to move coal. We are aware even now that a good deal of locomotive trouble on railways arises through the use of inferior grades of coal and we feel that in no small measure this has contributed to the so-called bottleneck for the movement of coal in India. We are not suggesting any change in the policy of progressively curtailing supplies of high grade metallurgical or coking coal to railways but we do feel that high grade non-coking coal must be made available freely to meet the railways' requirements without resorting to grade III coals. This recommendation is made in the hope that the supplies of high grade non-coking coal are adequate and reserves sufficient to make this possible. It is also very important that the number of types of coal supplies to each railway should be reduced. Efficient use of coal depends on each shed receiving coal from a limited number of collieries.

**127. Oil Fuel in Locomotives.**—For the last three years the S. I. Railway have been burning oil instead of coal in a number of broad gauge locomotives. Figures furnished to us indicate an economy of about 20 per cent in the cost of fuel consumed as compared with coal. This is, however, inconclusive as the cost of conversion of engines to oil burning, the cost of oil storage tank installations at sheds, and the effect, if any, on the cost of boiler maintenance have not been taken into account. Further, the extended use of all oil on railways must be considered with some caution, as the oil has to be imported and this involves questions of foreign exchange and possible wide variations in cost. There would, however, appear to be a case for further experiments with oil burning on railways which serve ports but are at long distance from the coalfields.

**128. Fuel Economy.**—The expenses on fuel alone on the Indian Government Railways, excluding the N. W. and B. A. Railways, amounted to Rs. 502 lakhs in 1938-39 and Rs. 14,64 lakhs in 1946-47:—

*Expenditure on fuel.*

TABLE 8.

Railways	Rupees in lakhs.		
	1938-39	1945-46	1946-47
B. N.	58.11	180.65	205.45
B. B. & C. I.	84.70	156.79	199.97
E. I.	107.87	320.38	347.26
G. I. P.	87.79	266.58	254.01
M. & S. M.	70.06	211.16	231.73
O. T.	32.86	70.27	84.95
S. I.	60.54	130.40	140.70
Total	501.93	1336.23	1464.07
Percentage to the total operating expenses.	..	15%	12%

Of the total coal consumed (1946-47) approximately 36 per cent is consumed on passenger, 46 per cent on goods, about 13 per cent for shunting purposes and the balance is used on departmental work, for pumping water, generating electricity and for other miscellaneous purposes.

We have examined the actual consumption of coal on the various services for a number of years and find that generally speaking, railways were able in the case of passenger services to maintain the pre-war standard or even improve on it upto 1945-46, but there has been a deterioration since then. On the goods side there has been an almost continuous



deteriorations. The figures of lbs. of coal consumed per 1,000 gross ton miles (G.T.M.) are shown below:—

*Lbs. of coal consumed per 1000 G.T.M. Passenger and proportion of mixed Broad Gauge.*

TABLE 9

	B. N.	B.B. & C.I.	E. I.	G. I. P.	M. & S. M.	S. I.
1938-39	195.5	174.9	182.1	176.1	183.3	176.6
1939-40	198.3	171.2	181.8	185.5	186.8	170.0
1940-41	201.8	167.5	180.3	187.4	190.4	164.6
1941-42	201.5	160.4	174.7	183.7	185.2	170.8
1942-43	211.5	150.1	184.5	180.6	185.0	165.4
1943-44	217.2	146.3	190.9	184.4	190.5	162.5
1944-45	179.3	148.3	178.7	177.9	175.7	153.0
1945-46	170.4	163.2	185.5	180.2	178.0	153.1
1946-47	185.6	200.8	215.2	168.5	191.7	170.7

<i>Metre Gauge</i>						
	B.B. & C.I.	M. & S. M.	O. T.	S. I.		
1938-39	229.3	198.9	195.2*	193.0		
1939-40	229.3	196.2	182.8*	231.5		
1940-41	223.7	198.5	204.3*	201.5		
1941-42	231.7	199.1	214.7*	201.5		
1942-43	227.3	207.2	192.0	208.1		
1943-44	225.6	222.0	206.6	185.5		
1944-45	216.9	226.7	164.8	173.1		
1945-46	231.8	218.9	190.4	173.8		
1946-47	271.7	236.2	266.7	197.2		

\*B. & N. W. Railway.

*Lbs. of coal consumed per 1000 G.T.M. Goods and proportion of mixed Broad Gauge*

TABLE 10.

	B. N.	B.B. & C.I.	E. I.	G. I. P.	M. & S. M.	S. I.
1938-39	172.4	118.9	124.4	166.1	145.7	109.3
1939-40	173.4	119.1	124.5	173.2	136.8	109.8
1940-41	174.2	121.0	123.9	168.0	129.2	110.3
1941-42	184.3	124.5	125.7	170.8	139.2	122.4
1942-43	196.1	132.8	134.3	180.2	138.5	134.5
1943-44	208.4	139.2	135.0	184.6	138.7	141.8
1944-45	199.7	136.6	139.5	171.9	123.7	128.1
1945-46	188.4	146.2	144.2	172.3	142.0	130.5
1946-47	180.6	168.3	154.0	182.6	144.1	136.0

<i>Metre Gauge</i>						
	B. B. & C. I.	M. & S. M.	O. T.	S. I.		
1938-39	157.8	182.6	122.5*	115.5		
1939-40	156.7	182.0	121.1*	113.6		
1940-41	153.0	183.2	125.6*	111.9		
1941-42	160.0	190.2	126.2*	114.1		
1942-43	164.2	200.1	141.7	126.3		
1943-44	170.6	219.5	154.5	125.6		
1944-45	167.8	211.0	165.2	118.7		
1945-46	175.5	220.8	174.4	117.2		
1946-47	215.7	231.0	220.1	128.8		

\*B. & N. W. Railway.

As the fuel bill of the railways is large, it is unnecessary to stress the importance of economy in the use of this commodity. Even a slight improvement in these figures will lead to extensive economies. For example, by saving even one pound of coal per thousand gross ton miles, the saving in expenses would be of the order of Rs. 10 lakhs per annum.

Under goods services including proportion of mixed, there has been a marked deterioration on almost all the railways. We have investigated the causes of this deterioration and find that inferior grades of coal available for railway use in recent years had certainly affected consumption figures and led to deterioration. The control for the distribution of coal to railways passed from the Chief Mining Engineer (Railway Board) to the Coal Commissioner who has had to distribute coal in accordance with instructions issued from time to time by the Central Government. The effect of this on railways has already been commented on. In spite of this handicap, we are glad to note that some railways have been able to maintain good results. While we realise that due to uncertain factors, as to the quality of coal, it is very difficult to make fair comparisons and explain fluctuations, yet we are not satisfied that the large deterioration in the coal consumption figures can be explained due to this cause alone. We have before us the excellent example of what has been and can be achieved on a railway by a proper drive in fuel economy. We refer to a comparison of the average figures for broad gauge railways including Nizam's State Railway, and the coal consumption figures of the Nizam's State Railway.

TABLE 11

*Lbs. of coal consumed per 1000 G.T.M.*

Service	Average B.G. Rlys. (including N.S. Rly.)			N. S. Rly. (B.G.)		
	1938-39	1945-46	1946-47	1938-39	1945-46	1946-47
Passenger & proportion of mixed.	180.2	172.6	190.2	182.0	150.4	141.7
Goods & p.op. of mixed	142.4	162.6	168.3	141.8	134.9	135.6
Shunting including siding	60.3	78.5	79.9	67.4	49.0	51.5

The drive on the N. S. Railway consists of a system of detailed and prompt analysis of fuel consumption during every trip. Immediate action is taken on the defects disclosed by such analysis, and a persistent appeal is made to drivers through leaflets with fresh slogans every month. The results achieved by various drivers are classified and the savings effected and losses incurred by them are published. Monthly bulletins are also issued.

For every run, an allowance of coal is fixed on the basis of experiments, and at the end of every trip, the driver is required to complete a prescribed form, giving details of quantity consumed, reasons for any excess over the trip allowance with his estimate of the excess arising from each cause. Any excess for which he cannot give a reasonably satisfactory explanation is put down as due to his mismanagement.

The driver's remarks are sorted out and transferred to separate control cards, each of which is intended to show :—

- (a) extra coal consumed because of mechanical trouble in the engine.

There is a separate card for each engine and a separate column in the card for each defect, the date on which that defect developed and the extra consumption it led to. These defects are reported to the Loco Foreman whose duty it is to have the defects attended to. This has sometimes been done through alterations in design, etc.

- (b) extra coal consumed because of detentions at stations. There is a card for each station, the date of detention, its duration and the extra coal consumed;

- (c) extra coal consumed because of bad quality of coal, bad weather and engineering restrictions. There is a separate card for each colliery, for each section of line and for each Engineering District;

- (d) extra coal consumed because of bad traffic controlling causing unnecessary detentions for crossings, etc. There is a card for each control section.

- (e) extra coal consumed because of mismanagement by the driver, i.e., consumption which he cannot otherwise explain. There is a card for each driver.

The particulars in the card are summarised monthly for the information of the officers concerned. The driver's performance, whether it is very good, good, bad or indifferent, is given wide publicity in order to bring a spirit of emulation into play. There are four clerks employed on the above analysis, who work under a Loco. Inspector, who has under him staff for spot checks besides fuel clerks at each depot and Fuel Inspectors at each shed to investigate causes of high consumption.

We cannot do better than recommend that a somewhat similar system be introduced on all Indian Government Railways. It might be argued that what is possible on the N. S. Railway, which is a small railway, may not be possible on a big system. We do not subscribe to this view. It is possible to organise similar drives on a regional basis even on a large system. The actual cost of the Fuel Economy Organisation on the N. S. Railway is very small.

We have seen some rather half-hearted fuel economy drives on Indian Government Railways. Some of them have a fairly large staff, designated as Fuel Inspectors, Fuel Checkers, etc., but we are not satisfied that their organisation is efficient and immediate improvement is called for. We feel that if a regular analysis is made, engine by engine, driver by driver, service by service, a good deal of improvement in the fuel consumption can be attained. The scope of economy under this head is of the order of rupees two crores. It may be mentioned here that the control on fuel consumption will be easier in the future, owing to the likely improvement and constancy of the quality of coal that is expected in the near future. We have referred to this earlier in this chapter.

At the same time we must sound a note of caution. While fuel economy is vital and any appreciable savings will be extremely valuable, over-emphasis on fuel economy may lead to reduction in speed of movement of trains and loss of time. It can also lead to delays to traffic if, as has happened, drivers make excuses to avoid taking out engines known to be 'Coal Eaters'. Lastly, the Nizam's State Railway has the great advantage, we believe, of knowing what coal it is going to get and receiving coal of roughly constant quality. Other Indian Railways are, as we have seen, not in this happy position at present and until each shed receives regular supplies of coal of constant quality and from a very restricted number of collieries, fuel economy drives will be severely handicapped.

### G. Signalling and Tele-Communication

120. Both the Wedgwood Committee and the Inglis-Appleton Commission had something to say about signalling. The Wedgwood Committee considered that "Signalling adopted in India has been more expensive than the circumstances have justified". They then recommended adoption of central cabruss at stations with double-wire working of points. Since the Wedgwood report was written, many double-wire installations have been put up in India, and more are programmed. Unfortunately, the original object, economy, has rather been lost sight of. There are two reasons for this: special safety devices have been introduced into double-wire work, although similar safeguards have not been considered necessary with older signalling: the manufacture of double-wire apparatus has unfortunately been allowed to get largely into the hands of one firm only: there is therefore no competition, and the delay in delivery of stores is serious.

Generally, there is little for us to say except to endorse what the Wedgwood Committee said, and to hope that our recommendations may be more effective. The adoption of the new Central Pay Commission scales and the Adjudicator's Award makes the case for central cabins even stronger, owing to the greater importance of keeping the staff at each station down to a minimum. Certainly, railways should be encouraged to go in for double-wire for signalling installations, provided it is remembered that the reason is that "This should be substantially cheaper than the two-cabin system prevalent in India." There is, we fear, a tendency to look on double-wire as something modern; and by the time signal engineers have

finished stream-lining it, it may actually be more expensive than other methods.

Unfortunately, Signal Engineers tend to be divided into two groups—the ultra conservative and the ultra modern. Either may be expensive, but the officers under whom signal engineers work are usually not themselves signal experts, and, seeing that safety largely depends on good signal and interlocking work, the superior officer is unlikely to question the advice of his signal expert, any more he would suggest to his doctor the substitution of cheap for expensive drugs in a prescription.

There will probably have to be a good deal of new work done by Signal Departments on all Railways during the next few years and it is most important that the money should be spent to the best advantage.

We would make the following recommendations:—

1. The preparation of 'I. R. S.' drawings for all double wire components should be taken in hand. This will enable railways either to manufacture their own double wire equipment, or to call for tenders in the open market.
2. So far very little has been done to standardise designs for electrical components. We believe that there is capacity in the country for the manufacture of, at any rate, many of the simpler components, so we trust that attention will be given to this also.
3. The attachment to the Board's office of an experienced Signal Engineer, capable of examining signal and interlocking schemes and advising the Board as to whether the proposals are economically satisfactory.
4. The deputation of Junior Indian Signal Officers to study signal and interlocking work on the Continent of Europe. Indian signal practice has, in the past, followed British practice much too closely.

Turning now to the subject of tele-communications, we are glad to see that the suggestions of Messrs. Inglis and Appleton for improving communications on railways are being carried out and that there has, in recent years, been some improvement in the standard of Post and Telegraph line maintenance. We need only add that we have no reason to fear that any of the new circuits recently put in will be found to be an unjustified expense.

#### H. General Rules

130. The problems of efficient and economical signal engineering are bound up with the general rules for the working of railways. The original general rules were issued in 1906 and the book was revised and re-issued in 1929.

Various criticisms have been made about the present rules—

1. The rules go into too great detail, as they attempt not only to lay down principles but to order how the principles should be carried out. It is suggested that much of what now appears in Chapter II should more appropriately be contained in a "Signal Manual". At present principles may be obscured by details.
2. Some rules are considered unduly restrictive, *e.g.*, General Rules 38 and 90.
3. General arrangement is criticised in that rules that should be closely linked appear in different chapters, *e.g.*, Chapters II, X and XVIII.
4. Drafting is bad and in some cases the meaning is obscure.

We feel, however, that railway administrations have tended to increase their own difficulties by the addition of large numbers of subsidiary rules, which in some cases are much more restrictive than the General Rules. In other words, some railways do not take full advantage of the latitude that the General Rules allow.

We understand that a Committee has been set up to revise the General Rule Book. We can only record the hope that the Committee will approach

the whole subject from first principles and will evolve a new rule book which will not only contain all orders necessary to secure safety but will also point the way for the future development of systems of working and signalling on progressive lines.

## CHAPTER VI

### COMMERCIAL ORGANISATION AND OTHER MATTERS

#### A. Organisation

131. *Organisation of the Commercial Department.*—During a period of continued transport shortage, the normal functions of the Commercial Department are likely to be lost sight of, and this is what appears to have happened on some of the railways during the war and in the post-war period. This is unfortunate, but what is still more serious is that this feeling of complacency should still continue, when there are signs of decline in the total volume of traffic carried by the railways.

The need for a strong Commercial organisation has been stressed by other Committees that have previously examined Indian railway working. In Section XV, pages 29-37, of the Second Report, the Pope Committee emphasised the importance of the Commercial Department, the one and the only earning department on the railways. They stressed the need for salesmanship, commercial research, advertising and publicity, and recommended that the Commercial organisation and personnel of each railway should be overhauled and an intensive campaign organised to attract traffic to the railway, bearing in mind the well proven principle that "facilities beget traffic". The Wedgwood Committee also made a similar recommendation and in paragraphs 116 to 118, pages 70-75, stressed the need of a proper Commercial organisation and the development of commercial research, advertising and publicity.

We must hope and assume that sooner or later the railways will succeed in increasing their capacity to produce transportation until the supply exceeds the demand. When this happens, the commercial branches or departments of the railways will at once become of the greatest importance as it will be their duty and responsibility not only to retain all existing traffic but also to increase earnings by finding a market for the disposable surplus of transportation.

This brings us to the general consideration of what the scope of the Commercial Department should be.

The practice varies somewhat between the various railways but the following may be considered as a fairly representative list of the present duties and responsibilities of the Commercial Department:—

- (i) Fixation of rates and fares and publication of tariffs.
- (ii) Issue, checking and collection of tickets, Reservation of seats and compartments.
- (iii) Issue of concession orders.
- (iv) Settlement of claims, compensation and refunds, including remission of demurrage and wharfage.
- (v) Oversight of methods for prevention of claims, such as addressing and marking of packages and cleaning, rivetting and labelling of wagons.
- (vi) Booking and delivery of goods.
- (vii) Handling contracts for goods and parcels.
- (viii) Checking of goods and parcels at transhipment and repacking points.
- (ix) Publicity and advertisement.
- (x) 'Contact' work including representing the railway on Chambers of Commerce, etc.
- (xi) Provision of passenger amenities, and preparation of proposals for opening of new stations or for providing more facilities at existing stations.

- (xii) Catering, including platform vendors.
- (xiii) Watch and Ward.
- (xiv) Traffic surveys for new construction.
- (xv) Assisted siding agreements.
- (xvi) Out-agency agreements.
- (xvii) Travel Agency agreements.
- (xviii) Notification of restrictions.
- (xix) Allotment of wagons and checking of wagon detention at terminals.

We feel that there has been a tendency to burden commercial departments with work that should more properly have been made the responsibility of the operating department. This has the following disadvantages:—

- (a) The Chief Commercial Manager's proper position as the Sales Manager of the Railway is obscured by giving him additional responsibilities.
- (b) The time of Senior Commercial Officers is taken up by matters which, though important, are not directly related to the selling of transportation, so that they have but little time to 'sit back and think', or to devote themselves to a close study of possible ways of increasing railway revenues.
- (c) A large body of staff are 'joint', that is, they have divided allegiance both to the Operating and Commercial Departments.

On the other hand, a wholesale transfer of responsibilities from the Commercial to the Operating Department would raise some difficulties. It must result in the transfer of a number of officers from one department to the other. If the responsibilities of the Commercial Department are to be restricted solely to "Salesmanship", fixation of rates and fares, publicity and 'contact' work, and commercial research, a comparatively small cadre of officers only could be justified, and this may cause difficulties in persuading suitable officers to equip themselves for a career in the Commercial Department for fear that their avenue of promotion might be more restricted than in the Operating Department. We feel that the best and keenest brains on the railways are needed in the senior commercial appointments on the railways. Such officers can only gain the necessary experience and prove their qualities by long service in the commercial department. It seems, therefore, desirable that the commercial officers' cadre should, as at present, be commensurate with the Transportation (Traffic) cadre, even if this involves the retention by the commercial department of some responsibilities which do not strictly form part of salesmanship. But it cannot be too strongly emphasised that the primary responsibility of the commercial department is to increase revenue and that commercial officers must never lose sight of this, in spite of pre-occupation with other ancillary matters.

We lay great emphasis on the qualifications that a commercial officer should possess. His qualifications should include:—

- (a) an aptitude to appreciate the commercial implications of the various measures taken to raise the revenues. For this purpose he should have a close familiarity with the rates structure, railway law, railway statistics and their use and possess an analytical brain.
- (b) an even and pleasant temperament which he needs in his dealings with the public, as his work brings him in constant touch with them;
- (c) the ability to understand the market conditions of commodities and also trade requirements. His interests should cover a wide field of knowledge of economic activities generally, particularly method of production and distribution of Industries and Trade.

While we have a number of commercial officers who fulfil these conditions, we cannot say that we are satisfied with the standard or the special

aptitude for commercial work possessed by commercial officers generally. We, therefore, recommend that :—

- (i) arrangements for training of officers in the Transportation (Traffic) and Commercial Departments require to be better organised. The early training of all such officers should include a course of instruction in commercial subjects.
- (ii) After the general training, the officers should be given chances of working both in the Transportation and Commercial Departments for 6 to 8 years.
- (iii) Thereafter, future commercial officers should be carefully selected and allowed to specialise in commercial matters and the cadre of such officers should be separated from that of the Transportation (Traffic) Department.
- (iv) The promotion of officers should then lie within the Department for which they are selected.

Generally speaking, the transfer of officers to commercial posts has not been popular in the past owing to a belief that the prospects of promotion to senior posts are better in the case of officers, who have had more experience of Transportation (Traffic) work. From the evidence which we have received from an authoritative source, it appears that there has been in the past a tendency for an officer to be posted to the commercial department because he was not good enough for the operating, and that the commercial departments have developed an inferiority complex. We consider this most unfortunate because of the importance of the work of this department, and, therefore, recommend that the pay and status of the departmental heads and of other officers of corresponding rank in both the Operating and Commercial Departments should be equal and that as far as possible avenues of promotion of officers in the Commercial Department should not be relatively restricted. We also consider that selected officers should be given encouragement for special study, which should include post-graduate courses in Railway Economics, attendance at Conferences on Commercial subjects, and visits to other railways in India to compare methods of working. In certain cases it may be desirable to depute officers to make special studies in other countries.

The Wedgwood Committee stated that "Divisional and District Officers have so far seldom been chosen for their commercial qualities, and this might be apt to impair the vigour of the drive, which it must be the Commercial Manager's business to institute and maintain" and they recommended that "on lines where the Divisional system is established, we are disposed to suggest that the whole commercial organisation should be lifted out of the divisional scheme, and organised at this stage on the departmental principle, with District Officers reporting direct to the Commercial Manager." While we agree with the desire that prompted this recommendation, we do not consider that it should be necessary to lift the Commercial Department out of the Divisional Organisation. Such a step would lead to considerable practical difficulties in the day-to-day working and we think it undesirable to divorce the Divisional Superintendents from commercial responsibilities. We hope that, in suitable cases, we may see officers who have had commercial experience selected as Divisional Superintendents, but where this is not the case we should not expect the Divisional Superintendent to interfere unduly in work, the details of which he may not be fully qualified to appreciate and in such cases he will, if he is a wise man, allow his Divisional Commercial Officer to carry on his field and research work under the orders of the Chief Commercial Manager, and for this purpose to correspond direct with him.

In order to ensure that the entire commercial organisation, from the Chief Commercial Manager to the commercial staff at station, work with vigour, it is necessary to have a separate set of officers and inspectors entrusted with the commercial work. We are, therefore, of the opinion that there should be a separate set of Inspectors supervising the commercial work at stations. On a section with a low density of traffic, however, transportation and commercial duties might be combined so far as the Inspector is concerned.

We have stressed the importance of strong commercial branches or departments on the railways. We feel that the recent experiment of amalgamating the posts of Chief Operating Superintendent and Chief Commercial Superintendent on the South Indian Railway was a retrograde one and we hope that it will be abandoned. We should also recommend, in due course, the formation of commercial departments on the two railways which at present have no separate commercial organisation, the B. B. & C. I. and O. T. Railways. Mr. S. Guruswami and Mr. K. R. Rama Iyer, however, do not accept the necessity for a separate Chief Commercial Manager (Chief Commercial Superintendent in this case) on the S. I. Railway. They are also opposed to the introduction of an entirely separate commercial department on the O. T. Railway, as they consider that in view of the small size of the system, the cost of an additional Head of a Department cannot be justified. They, however, agree to the necessity for the retention of a separate commercial organisation within the Traffic Department.

132. *Public Relations.*—The Wedgwood Committee, in Chapter XII of their Report, dealt at considerable length with the subject of Public Relations. They started their chapter by stating that “if we may judge from the evidence which we have taken, the Indian Railways are unpopular. We would almost say that they are the most unpopular institutions in India”. That, unfortunately, is as true in 1948 as it was in 1937.

Their recommendations, aimed at setting this right, fall under three main heads:—

- (i) The setting up of Railway Information Offices at Delhi and the other main centres of population in order to maintain adequate contact with the Press.
- (ii) Closer contact between the railway administrations and the trading public.
- (iii) Maintenance of closer relations with Provincial Governments.

The Wedgwood Committee foresaw that the establishment of Information or Publicity Offices would not be easy owing to railway officers generally having little or no experience of Press work. This has proved correct: Public Relations Offices have been opened at Bombay, Calcutta and Madras, and are, we believe, doing useful work. The Board also have a Joint Director, Public Relations, and there are Public Relations Officers attached to the E. P., O. T. and Assam Railways. But it has been difficult to find suitable officers. We believe that the best course is to select railway officers who show aptitude and keenness for publicity work and give them some special training, rather than attempt to recruit officers who already have Press experience and try then to teach them the railway side of their work.

Both the Bombay and Calcutta offices were started by serving railway officers and we feel that, up to a point, they are working on the right lines; though so far they have been seriously handicapped by lack of accommodation.

It is of the greatest importance that the “Railway Case” should be kept constantly before the public; by the issue of notifications from time to time; by the writing of suitable replies to the letters appearing in the correspondence columns from “Disgruntled Traveller” and his ilk; by holding occasional Press Conferences; and generally by getting to know and gaining the confidence of Editors, Reporters and Press Correspondents. It is, of course, vitally important that before holding a Press Conference or issuing any information to the Press, the Public Relations Officer should be absolutely certain of his facts. To state publicly something as Railways’ case which subsequently proves to be not entirely correct, does much more harm than silence. A further duty of the Public Relations Officer should be to collect cuttings from papers on matters affecting railways and bringing them to the notice of the departmental officers concerned. In such a collection, it is, of course, important that all matters, whether favourable or otherwise, should be included.



This covers the ground at present : but we believe that the time is not far off when the railways will again be in the position of being able to provide more transportation than is demanded. Then the advertisement side of Public Relations will assume greater importance : advertisement—in many forms—aimed at stimulating demand for rail transport.

We are sorry to see that at present, some of the energies of Public Relations Officers are being side-tracked on extraneous, though important work ; we refer to such matters as negotiations with trade unions, propaganda to the staff and staff welfare. This work is unquestionably important, but it should be the function of the Personnel Branch and not of Public Relations Officers. The Public Relations Officer should be one of the most valued lieutenants of the Chief Commercial Manager and should not be saddled with work which is not part of the normal responsibilities of a Public Relations or Publicity Officer. We also consider that the practice of referring complaints to the Public Relations Officers is faulty. Complaints should rather go straight to the departmental officer concerned, as it is his duty and responsibility to remove the cause of the complaint.

Further, we are not satisfied that the system of having Joint Public Relations Officers for the administrations serving one main centre is wise. We feel that the earlier system of giving the Commercial Head of each railway his own Public Relations or Publicity Officer was better, so as to make each Head Office complete in itself. Further, we are not satisfied that adequate justification exists at present for the appointment at each of the centres, Bombay, Calcutta and Madras, of one Public Relations Officer in the junior administrative scale and two other senior or junior scale officers. In our opinion, one senior scale Public Relations Officer attached to the Headquarters of each Railway should be sufficient until the necessity for giving this officer further relief or assistance is adequately demonstrated. No doubt, at Calcutta and Bombay, at each of which the Headquarters of two railways are situated, the two Public Relations Officers would be careful to collaborate and avoid any undesirable differences in their publicity schemes.

At present, in the Railway Board's office, there is a Joint Director and a Deputy Director, Public Relations, and we understand there are proposals for expanding the organisation. We feel that if the scope of the Public Relations organisation is limited as we have recommended above, there is no need to make any expansion in the office of the Railway Board.

Although it is hardly a cognate subject, we would refer here to the question of the sale of advertisement space on railway premises as this generally forms part of the responsibilities of Public Relations Officers. It is clearly most undesirable that the movement of passengers on platforms or in station concourses should be hampered by trade show cases, and it may lower the prestige of railways if the facade of an important station is obscured by advertisements. But, without going to such undesirable extremes, there is, we believe, an important source of revenue in the letting of advertisement space which has as yet been by no means fully exploited.

The practice also of General Managers or Commercial Heads of Railways meeting the members of Trade or Industrial Associations is to be commended. It must be conceded that it is often impossible for the officers concerned to promise any definite action, but the mere fact that a grievance has been aired, and sympathetically considered, must help to improve relations between the railway and its customers.

Lastly, the Wedgwood Committee recommended closer relations between the administrations and Provincial Governments. As far as we could find out this advice has been followed, and there appears now to be satisfactory contact, at various levels, between Provincial Governments and Railways. This is all to the good ; there may have been a feeling at one time that as railways were a 'Central subject', they need not worry about Provincial Governments ; such an idea would be dangerous now.

### B. Rates and Fares

**133. Rates Registers.**—One of the main complaints considered by the Wedgwood Committee in their report was that the public were finding great difficulty in obtaining firm or accurate quotation of rates from railways and that undercharges were frequent. The Wedgwood Committee in their report considered that there was substance in this complaint and that the existing system of rate calculation and quotation by station staff was unsatisfactory. They recommended that Rate Books should be introduced at stations and that all calculations of new rates should be made in the Head Offices of Railways, so as to ensure rating accuracy.

The Indian Railway Conference Association considered this suggestion of the Wedgwood Committee and, in October 1937, passed a Resolution recommending the universal adoption of Station Rates Registers on all railways for both inward and outward traffic. At that time, the North Western Railway already had foreign outward rate registers in use at all their stations, but other railways had been nervous of adopting the same plan on grounds of expense. After the passing of the 1937 Resolution by the Conference, two Railways, *viz.*, B. N. and A. B., after preliminary preparation, commenced compilation of Rates Registers and actually had them in use at all stations soon after the start of the War. As the Railway Board did not issue specific instructions on this point to the State-managed Railways, they had not commenced preparation of Rates Registers when the War necessitated further deferment of the work. Later, however, the Jodhpur Railway also introduced Rates Registers.

While, therefore, the principles of the 1937 Resolution have never been challenged, only four railways ever actually compiled Rates Registers: there has, however, been enough experience gained to show that the solid advantages claimed have in fact been realised. The methods used by these railways in compiling, issuing and maintaining Rates Registers differed widely, but this has been an advantage as it has given other railways a chance of choosing which method will best suit their own special circumstances.

We are glad to hear that the Railway Board have decided that the Indian Government Railways should all introduce Rates Registers and have ordered the necessary equipment for the preparation of the Registers. We trust that this work, a labour of very great magnitude, will be energetically prosecuted.

**134. Rates Structure.** Other complaints made to the Wedgwood Committee concerned the multiplicity of schedule and exceptional class rates in use on railways, the application of the discontinuous mileage system when calculating telescopic rates on traffic passing from one railway to another and the wide margin between owner's risk and railway risk rate. The Commercial Committee of the Indian Railway Conference Association started to investigate the question of reducing the number of schedule rates in use, and considerable progress was made with this during the war years. They later came round to the view that the introduction of telescopic class rates on continuous mileage might be possible without too seriously disturbing the existing rating structure and might help to eliminate from the Tariff large numbers of station-to-station rates as well as some of the schedule rates. In 1944, Mr. G. St. G. Higginson of the Bengal Nagpur Railway was put on special duty to collect material for a close study of this problem. Later, Mr. K. L. Crawford of the Madras and Southern Mahratta Railway was deputed to prepare definite proposals, and the first set of telescopic class rates, known as 'Special Class A' for manures and oil-cake, was introduced on the 1st February 1947. Meantime, Mr. K. L. Crawford had been transferred to the Board, as Joint Director (Post-war Rating) and an Advisory Committee, consisting of Rates Officers, was set up to advise the Board on Postwar Rating problems.

By the middle of 1948, the Postwar Rating Advisory Committee had completed its labours and had produced a complete set of telescopic class rates and telescopic wagon rate schedules. These have since been approved by the Cabinet and the new rates structure came into force on the 1st October 1948. Individual railways will still retain the power to quote station-to-station rates at rates lower than the new telescopic class rate, subject to

certain limitations prescribed by the Board, but this power is strictly limited to the quotation of station-to-station rates. No railway may make a general reduction in the rates for a commodity. We hope that the introduction of the new rates structure will go a long way towards allaying the criticisms referred to by the Wedgwood Committee. We are, however, not satisfied that the problem of the relation between Owner's Risk and Railway Risk rates has been adequately handled. The question of what should be the difference between the Owner's Risk and Railway Risk rates for the various commodities might, we suggest, be considered by the newly formed Railway Rates Tribunal.

But the success or failure of this new experiment will be gauged by the number of station-to-station rates that railways find it necessary to quote. If, in the course of a few years, it is found that the great bulk of traffic is moving on the new telescopic rates then the experiment may be considered successful. If, however, it is found that the majority of traffic is being charged at station-to-station rates, then this effort to simplify rating will have failed. But in any case, the elimination of schedule rates and special classifications should go a long way towards ensuring rating accuracy and the quotation of reliable rates; even before the compilation and issue of the Rates Registers is completed.

135. *Routing of traffic.*—In prewar years, manipulation of rates by individual railways had led to numerous cases of anomalous routing of traffic, the cheapest route between two points often being by no means the shortest route. During and since the war years, many of these anomalies have been removed, and the introduction of the new rates structure on the 1st October 1948 should finally clear up the routing problem and ensure that traffic moves by the shortest route. But one complication will still remain; in some cases the physically shortest route between two stations involves passage through two break of gauge transshipment points. Such a route, though the shortest in distance, is likely to be by no means the shortest in time and may well be less economical in cost of operation to the railways concerned than the longer one-gauge route. The I. R. C. A. decided, and the Board have approved, that to arrive at the 'shortest' route, 75 miles should be added for each break of gauge transshipment involved. Thus, the all broad gauge route between two stations would be the correct one if it is less than 150 miles longer than a route involving transfer to the metre gauge at some point and back to the broad gauge at another point, or *vice versa*. The same point arises also in the case of traffic to or from stations served by both gauges, although in such cases only one transshipment is involved. The principle is certainly sound, but we doubt if the evaluation of a transshipment as the equivalent of an extra 75 miles haulage is correct. We feel that the additional mileage allowance might well be higher than 75 miles. It will be advisable in due course to have an examination made to find out how much traffic does move through two break of gauge transshipment points under this rule and then to study whether conveyance of such traffic by the one gauge route would not be more economical.

136. *General level of Rates and Fares.*—We have dealt at length with the machinery of rate framing and rate quotation. We now turn to the problem of the future general level of rates and fares. On this point we feel that it is not necessary, if indeed proper for us, to make any very general recommendation. If general increases in rates and fares are necessary in order to secure the financial solvency of the railways, we feel that the method of applying any such increases must be a subject for Cabinet consideration. It is hardly within our purview to make suggestions as to the relative effect on the economic life of the country of increases in such fundamentals as coal freights, foodgrain rates or passenger fares. There are, however, a few points, that have come to our notice which, we feel, should be recorded.

137. *Season Ticket Fares.*—We consider that the scale of charges for season tickets in the Bombay area is too low and should be reconsidered. We understand that the Board are examining the level of season tickets generally.

138. *Reduction in number of Classes.*—Government have announced their decision to reduce the number of passenger classes on Indian Government Railways from four to three, from the 1st January 1949. The new classes will be known as 'Upper', 'Inter' and 'Ordinary', and the new 'Upper' class fare will be 24 pies per mile, that is mid-way between the present First and Second Class fares. As the introduction of the new Upper Class fare can be expected to cause a number of present Second Class passengers to patronise the Inter Class in future, so increasing the volume of Inter Class passengers, it is proposed to convert about half of the present Second Class compartments to Inter Class: the remaining Second Class and all First Class compartments will be modified to accord with the new standards laid down for Upper Class.

While we agree with the advisability of reducing the number of classes from four to three, we feel that the change might with advantage have been deferred to a date later than the 1st January next. We have referred to the decision to convert about half of the present Second Class accommodation to Inter Class. We are not aware of the reasons that led to this decision, but it seems to us that an estimate of the number of passengers who will transfer from Second Class to Inter Class, owing to the higher level of the new Upper Class fare, can be little more than an intelligent guess. Should this estimate prove to be wide of the mark, serious additional overcrowding will result in either the Upper Class or the Inter Class. It seems to us, therefore, that it might have been wiser to defer the change until Railways have some spare stock in hand, which could be used to provide relief for whichever class may most require it. Further, as we have shown in paragraphs 60 and 64, Chapter IV, there are at present serious arrears of maintenance to coaching stock outstanding. We consider it important that the Railway Workshops should not now be burdened with the additional work of converting stock to the new standards, as this must reduce their capacity to overtake arrears of normal maintenance.

139. *Coal Freight Rates.*—The Government of India have introduced a new telescopic scale for coal, which applies on all Indian Government Railways and most of the Indian State Railways from the 1st September 1948.

We certainly support the principle of having one coal scale for the whole of India, but some time must elapse before the new scale can be either generally approved or seriously criticised. It will be necessary to see from actual experience, what is the effect on railway earnings and also whether the scale is found to introduce any serious injustices that may have to be met by the quotation of station to station rates.

We have, however, one new suggestion to make. At present about one-third of the coal loaded in the coalfields is carried in open wagons: these are principally needed for the collieries with screening and mechanical loading plants. The supply of open wagons is an important saving to these collieries as their use obviates the cost of manual loading. But to the railways the proposition is less attractive: as there are comparatively few commodities other than coal that can be satisfactorily carried in open wagons, the incidence of empty haulage is higher with opens than with covered. In the case of the East Indian Railway it has been calculated that empty haulage into the coalfields represents 80 per cent. of the loaded mileage for open wagons as against 60 per cent. for covered. As this is done to save the colliery owners' money, we suggest that it would not be unreasonable to add an additional charge of 4 annas per ton when open wagons are supplied at the request of the individual colliery.

140. *Traffic requiring special types of wagons.*—There are a number of types of traffic for which special types of wagons are provided and these wagons are ear-marked for that particular traffic. We have in mind such instances as the provision of tankwagons for the conveyance of oils in bulk and the provision of special wagons for sugarcane traffic. In the latter case, particularly, owing to the seasonal nature of the traffic, the wagons concerned can only earn revenue for part of the year and annually stand idle for some months. We feel, it is desirable that the present rates charged for such traffic should be examined, to see whether the cost of providing special wagons is adequately covered.

### C. Claims and Legal work

141. *Claims.*—The incidence and cost of settlement of claims has greatly increased during the war years. The detailed figures with which we have been supplied are not entirely reliable, so we do not quote them, but it may be taken generally that the number of claims that are being received by railways at present is anything from five to ten times the number of claims received in 1938-39 and that payments in settlement of claims are from twenty to fifty times as great. Railways that were paying between Rs. 40,000 and Rs. 80,000 a year in compensation before the war are now distributing between Rs. 20 lakhs and Rs. 30 lakhs annually. The total amount paid in settlement of claims on Indian Government Railways increased from Rs. 4.25 lakhs in 1938-39 to Rs. 1.63 crores in 1946-47, this is serious loss of revenue.

To cope with the immense volume of the work, all railways have made large increases in the numbers of the staff devoted to claims investigation and settlement and some railways at any rate seem to have been able to keep pace with the work and are settling claims with reasonable promptitude others unfortunately are not.

We were given the following reasons for the great growth in the incidence of claims:—

- (i) the large increase in traffic, particularly of parcels, causing congestion at terminals and transshipment points;
- (ii) the dilution of staff, resulting in increase of mistakes, mis-sorting and the loss of documents;
- (iii) the increased value and scarcity of commodities, making pilferage more profitable; and
- (iv) the declining morale and discipline among the staff.

We have enquired as to the steps taken to deal with this serious situation. Usually the chief action taken has been to build up the Watch & Ward staff. On those railways which had an efficient Watch & Ward Organisation before the war, this has usually been beneficial, but on those railways that had not previously had any Watch & Ward, the results have not been so satisfactory. In any case, however, the Watch & Ward staff can only hope to guard against pilferage, they cannot be expected to stop loss caused by mis-sorting, bad marking or rough handling. For these evils, the only remedies are better organisation at stations and better training and supervision of the staff concerned. This aspect has not, we consider, in all cases been given the attention which it deserves.

We have referred above to the problem of pilferage; in some parts of India this word, unfortunately, hardly describes what is happening: running train thefts, on a highly organised scale, can only be described as looting. While this is mainly a problem for the Police, we are not altogether satisfied that the railways have taken as energetic action as is possible to protect the goods in their charge. Against organised running train thieves, rivetting has proved ineffective: but we were told that Ellis locks, as used by the Great Indian Peninsula Railway, have given a much greater degree of protection and we are surprised that greater use has not been made of them. We feel also that the Mechanical Departments of railways should devote more thought to methods of making wagons more "thief-proof" than they at present are.

Rivetting also clearly needs much greater care than it is at present receiving. We have ourselves noticed cases where sealing rivets could easily, quickly and silently be removed by hand. In such cases, the rivetting is a waste of time and money.

The organisation of claims offices needs very careful attention: the work has multiplied so rapidly that the handling of the large volume of correspondence requires a high degree of organisation in the claims office. Some Officers now engaged in claims work have, perhaps, not had the type of training and experience that would fit them for developing their office organisation and routine to the standard of efficiency now required. In such cases, it may be of assistance temporarily to draft officers from the Accounts Branch into the Claims offices. Such Officers are perhaps more likely to possess the experience required to enable them to organise a large

claims office than officers whose previous experience has been solely in commercial work.

We do not favour decentralisation of claims work: this is likely to lead to increase of correspondence and prevent the application of a united policy to the settlement of claims. Centralisation of work should ensure better supervision, which is absolutely necessary in such cases.

We would also refer to the 'Convention' of November 1943. Prior to this, claims involving more than one railway were not settled until it was proved, by inter railway correspondence, on which railway the loss or damage occurred, and until that railway accepted liability. This frequently led to great delay in the settlement of claims. After November 1943, it was agreed that the claims upto Rs. 1,000 should be settled by the Railway receiving the claim without reference to the other railways, and that the compensation paid, if exceeding Rs. 25, should be divided between the railways concerned, in a manner laid down in the Convention. The object of this was to speed up the payment of claims, and this object has to some extent been achieved; at any rate, the delays in payment of claims, serious as they at present are, would be far worse but for the Convention. But we hope that the Convention will not be permanent: the old system, slow as it perhaps was, did have the advantage that when a claim arose the railways concerned traced out the consignment and located the section of the railway on which the loss or damage occurred. It is essential to know this if remedial action is to be taken. At present, owing to the Convention, the majority of claims involving more than one railway are being settled without any attempt to localise the source of the trouble. This is a very unsatisfactory state of affairs and puts a premium on careless handling as staff realise that there is, under the present system, little chance of their carelessness being brought home to them.

We are also not satisfied with the way in which claims cases which go to court are handled by railways. We notice from the figures given in the Railway Board's report for the year 1946-47, that the number of cases settled out of court was more than four times the number actually decided by the court. Probably many were cases in which the railway had no real defence and the suit was filed because the claimant feared that his case might become time barred owing to the dilatoriness of the railway in settling. But we fear that in many of these cases the railway may have had an adequate defence but the officers concerned could not spare the time and trouble to work up the defence. Certainly the defence of a court case is irksome, involving the production of records, and staff to prove them, often in inaccessible courts. But it is to be hoped that the railway administration will be able to set this right: the organisation should be such that indefensible claims are settled before the claimant files a suit. Certainly we have no desire to cause any increase in the volume of litigation: but where a suit is filed, and the administration believes it has good grounds for repudiating the claim, then every effort must be made to work up and present the defence as well as possible, even if it means that staff that may be badly wanted elsewhere, have to spend some time at court waiting to give their evidence.

142. *Legal work on railways.*—As we have seen in considering claims, the efficient handling of legal work on railways is a matter of great importance. Inefficiency in this direction may lead to serious loss. All railways retain solicitors to advise them and to appear for them, or arrange for representation in court as necessary. The East Indian and South Indian Railways, however, in addition, employ whole-time Law Officers. In the case of the East Indian Railway, the Law Officers' duties are—

- (a) to supervise the handling of all railway civil cases in courts: including the drawing up of complaints and written statements, arranging of evidence, and instruction of lawyers engaged to appear for the railway;
- (b) to advise the administration in the case of criminal prosecutions, actual or possible, against members of the staff;
- (c) to attend to conveyancing work on the railway, *e.g.* drawing up of agreements, indemnity bonds and similar documents.

The Railway Board recently examined this question to see whether the expense of retaining whole time law officers could be justified, as opposed to arranging for the work to be done by Government Solicitors. The Board concluded from their examination that the Law Officers were giving value for money and that no special action or change was necessary.

With this view we generally agree, but we believe that the introduction of whole time Law Officers into other administrations might well be justified by greater expedition and efficiency in the handling of legal cases, particularly those arising out of claims.

#### D. Handling of Merchandise

**143. Quick Transit of Goods in Smalls**—Our attention has been drawn to the inordinate delays that take place in the transit of goods consignments in small, *i.e.* less than wagon loads. During and since the war, railways have not been able to pay the same attention to the transit of small consignments and the importance of this subject has receded into the background. Even the bare statistics that were being maintained prior to the war by the railways have been dispensed with and we think this is unfortunate.

The usual method of handling goods traffic in smalls is to load such consignments in collecting or through road vans (wagons) and move them by sectional van trains. Traffic for stations beyond the limit of the section is loaded in through road vans for the next transit station, which is usually situated at the end of the section run. At this station, consignments received from all directions are sorted out and repacked in another set of through road vans and moved onwards in the same way.

This entails the repacking of consignments at each transit station and when the traffic is booked over a long distance, much handling is involved and considerably delays may occur at the transit stations.

In order to avoid these delays and reduce handling at transit stations, a system of co-ordinated van goods service had been introduced on certain railways prior to the war. Van trains, sometimes called "Smalls Quick Transit" (S.Q.T.) trains were run over a long distance with a set of staff engaged in making up vans while the train was on the run and in loading and unloading packages at stations with the aid of travelling porters. A rest van was usually attached to such trains and the crews worked and rested in reliefs.

We believe that the E. I. Railway was the pioneer in this direction and they improved this system to a high pitch of efficiency. Other railways followed suit and this system was becoming general before the war.

One defect of this system is the employment of additional wagons. The average load per wagon on the SQT trains is apt to be lower than in those that are repacked at transit stations. During the war, when the shortage of wagons was keenly felt and the speed of movement of ordinary merchandise was of minor importance, railway slid back to the old system of repacking road vans at transit stations.

Prior to the war, railways recorded the average time taken by consignments between specific points. An examination of these records should indicate that the attempts of the railways to curtail transit time were successful.

We feel that the time has now arrived for a determined drive to be made to improve the average speed of transit of consignments. Railways must realise that in the near future they may not be able to maintain their level of traffic unless their services are improved and time in transit is curtailed.

We recommend that all railways should devote greater attention to this subject and introduce or reintroduce SQT services wherever possible. Records should be maintained of the average time in transit of consignments between specific points. Work trains should be scheduled with greater care: loaded wagons at stations must be cleared more methodically.

We also recommend an extension of "nominated loading", that is the loading of through vans on particular days of the week from specified stations to specified destinations. This would achieve economy in wagon space and reduce time in transit.



As regards the possibility of co-ordinated through vans on runs covering more than one railway, there does not appear to be much scope except for traffic between important trading centres. For example, the M. & S. M. and B. N. Railways had express goods service conveying through vans between Madras and Calcutta with a through running time of 5 days. They also had a system of nominated through vans for carrying smalls on particular days of the week. The G. I. P. and B. N. Railways also ran (in conjunction) a through goods train service between Bombay and Calcutta. We recommend that railways should study the possibility of running more through van services between important trading centres.

144. *Quick Transit of Parcels.*—In recent years, there has been a large increase in the volume of parcels traffic carried by railways, and much of this increase is due to the booking as 'parcels' of traffic that would normally move as goods. When the number of restrictions now in force in the movement of goods traffic can be reduced, it is likely that parcels traffic on railways will decrease considerably. The present terminal facilities and shed accommodation in parcel offices are certainly inadequate to the volume of traffic now carried, but as we believe that the traffic is likely to decline, no immediate enquiry is necessary, but at a later stage, a survey should be made of the terminal facilities that are necessary for the efficient handling of parcels traffic on railways. This should not delay the carrying out of improvements in the worst cases, e.g., at Delhi. As in the case of 'smalls', the time in transit of parcels traffic also requires more attention than it is at present receiving. We believe that generally the running of parcels trains with adequate staff gives better service than the conveyance of parcels traffic by ordinary passenger trains.

145. *Registered Transit System.*—The natural corollary to improvement in transit time for goods and parcels traffic would be the introduction of a registered transit system, on the lines of the 'Green Arrow System' operated by the old Eastern Bengal Railway before the war. For an additional charge of Re. 1 per consignment, the transit was specially supervised and recorded in what was known as the 'Green Arrow Cabinet'. The consignor could at any time obtain information by telephone as to the progress of his consignment, and on arrival at destination, special steps were taken to inform both consignor and consignee immediately.

There is no doubt that this service was appreciated and it might, with advantage, be introduced elsewhere later on. But it must be remembered that the expeditious handling of 'Green Arrow' consignments imposed a large volume of additional work on the Control Staff, and consequently the introduction of any such scheme should be confined to sections where the control and the telecommunication system is thoroughly adequate.

146. *Collection and Delivery System.*—In order to form an effective counter to road competition a fast goods and parcels service should be coupled with a "Street Delivery System" at important stations. This would tend to remove the handicap under which the railways work, *vis-a-vis* road operators, and provide a door-to-door service. We recommend that action should be taken to develop gradually a suitable collection and delivery service on a larger scale. It is appreciated that one of the principal reasons why these services have not been successful in the past, is that a large portion of goods and parcels traffic is booked to 'self' and the consignees obtain their railway receipts by V.P.P. or after the same have been retired through a bank. In such cases, therefore, consignments can only be delivered at the railway station. We feel, however, that if railways succeed in providing collection and delivery services at important stations, the business community will find ways and means of solving their present difficulty in regard to the endorsement of railway receipts.

The road transport is usually worked by contract and we see no reason why this should not be more economical than departmental working. Mr. Guruswami differs from this; he would prefer departmental working.

147. *Use of Refrigerator Cars and Service.*—We are aware that the Ministry of Agriculture is endeavouring to develop refrigeration in India



and this matter was recently considered at the first Refrigeration Development Conference in New Delhi on 19th July 1948. It is expected that there will be considerable development of terminal facilities for cold storage in India in the future and as the provision of refrigerator cars by railways is bound up with that of terminal facilities, it is expected that in the years to come, a demand for refrigerated service on railways will arise. Meantime, we would recommend that except where there is a definite point to point traffic justifying the use of refrigerator vans, the traffic should be built up by the provision of suitable portable insulated containers to hold pre-frozen consignments. Later, when cold storage traffic increases, the use of refrigerator vans may become profitable. We do not consider, however, that the time has yet come for incurring heavy capital expenditure on refrigerator vans though there appears already to be a field for insulated vans. In any case, we recommend that such vehicles should be railway property and not privately owned. The additional capital cost and maintenance charges should be covered by a suitable adjustment of the freight charges.

### E. Catering

148. *Catering*.—We now have to consider the very difficult problems arising out of Railway Catering. The difficulty, as we see it, arises from the fact that the railway caterer, whether he be running a first-class refreshment room or a small tea stall, is to some extent in the position of a monopolist. The traveller generally must buy what the caterer offers or go without; he has not the time to go outside the station, where, perhaps better fare may be on offer. There is, therefore, a general feeling among the travelling public that catering contractors use their privileged position to exploit the public by the sale of inferior food. We cannot deny that there is some substance in this, though there are many contractors who are making an honest effort to give the public good service. But the important thing is that there is this feeling amongst the travelling public, whether the grounds for it are serious or trivial. The only way in which this can be got over is by the introduction of departmental catering, with a rigid system of supervision. But the problem cannot be solved as easily as that. The figures that we have received concerning the financial results of departmental catering during the year 1947-48 on the B. N., M. & S. M. and S. I. Railways indicate losses on all the three railways and certainly do not give any grounds for recommending an extension of departmental catering as a method of improving net revenue. We have heard that this loss has, in part, been caused by these railways continuing to charge prices lower than market rates. If this is correct, steps should be taken to adjust prices and to charge economic rates without delay. Nevertheless, there is a grave danger that departmental catering may prove expensive and be the source of a reduction rather than an increase in net earnings. It is difficult to ensure that there will not be serious 'leakage' in the case of the smaller stalls where a system of cash vouchers and a separate cashier could hardly be applied. We must, therefore, recommend that departmental catering should be built up with caution: on those railways who at present have no departmental catering, it would be advisable to start in a fairly small way at a limited number of stations: the system should then not be extended until such time as the financial results could be reliably assessed. We feel that departmental catering should cover the smaller type of "tea stall" as well as the larger refreshment rooms if the accounting difficulties can be surmounted. If as is generally claimed, departmental catering does result in the travelling public getting better service, then that benefit should be enjoyed by all sections of that public and not only by those that can afford to pay for a full meal. We should, however, regard this question of the extension of departmental catering as a long term recommendation. It will be a matter requiring a great deal of careful preparation and organisation and we do not consider it to be so urgent as to warrant diverting the attention of officers from other and more urgent problems at present.

On those sections of railways where catering by contract is retained, at any rate temporarily, we feel that steps should be taken to obtain a fair and reasonable rent from the contractor. The policy in the past, on the

Government managed Railways, has been to give contracts at nominal rentals, on the grounds that the higher the rent the more the public would be exploited. We do not think this to be a necessary corollary: on the railways that were till recently under company management, there are still a number of contracts running which involve the payment of substantial but not unreasonable rentals and we have heard no suggestion that these contractors are giving any worse service than those whose contracts are financially less onerous. It is at least arguable that the necessity of securing a fairly large turnover in order to earn the required rental would force a contractor to maintain a respectable standard of service. However, we are certainly of the opinion that the present policy of 'nominal' rentals has been a source of loss of possible revenue to the railways without any advantage to their customers.

We note that the present practice is to refer questions concerning catering to the Central Advisory Council, whose recommendations, if accepted by the Board, are carried out throughout Indian Government Railways. We would suggest, as a modification, that greater discretion might be left to individual railways after consultation with their local advisory committees. At present catering requirements vary from one part of India to another and to some extent from one train to another; we feel, therefore, that to try and make rules concerning classes of Refreshment Rooms, type of food to be supplied, and abolition of Dining Cars on an All-India basis, may not be conducive either to passengers obtaining the kind of service they most appreciate, or to railways obtaining the optimum net revenue. We feel, therefore, that generally such questions should be left to individual railways to be settled in consultation with their Local Advisory Committees.

#### F. Ticketless Travel

149. *Ticketless Travel*.—One of the perennial problems on Indian Railways is that of ticketless travel: it also causes very serious loss of possible revenue. The dimensions of this annual loss cannot be gauged with any great accuracy, but the Board recently ordered certain investigations on railways in order to provide data on which the loss could be assessed. As a result of these investigations, the Railway Board have estimated the annual loss of revenue caused by ticketless travel at Rs. 8 crores. We are not convinced of the accuracy of this estimate: the system of selecting sample sections on railways for test purposes does not appear such as would afford a reliable estimate for the whole line: and the fares for those classed as 'indigent' have been included, although if the passenger really was indigent he could not in any case have paid his fare: he has contributed to overcrowding but not to loss of revenue. However, even if we feel that the Board's estimate is hardly reliable there can be little doubt that the loss from ticketless travel is very important.

Ticketless travellers can be divided into three classes:—

- (i) The Cheat: the man who has money for his fare but evades payment, if possible.
- (ii) The Penniless Passenger.
- (iii) The Victim of Circumstances: the man who tries to buy a ticket but cannot, usually because either the booking office is not open in time, or booking office facilities are inadequate.

Probably the first class is by far the largest, and it is an unfortunate sidelight on human morals, in other countries as well as in India, that cheating Government or a railway is not regarded as immoral. In fact, "dodging the Customs", "diddling the Income-tax" and "doing down the railway", are sometimes regarded as quite praiseworthy achievements. This can only be changed either by an improvement in the attitude of the people to the State or by taking preventive and punitive action in order to convince the offender that his crime does not pay.

The following are some of the steps which can and should be taken to check the 'cheat' passenger:—

- (i) Improvement in station fencing, including provision of palisade fencing between tracks.

- (ii) Introduction of more trains on sections where overcrowding is serious. This depends on the availability of stock.
- (iii) Appointment of more, and better trained, ticket checkers and the reintroduction of the 'Crew' system.
- (iv) Appointment of more Railway Magistrates at important centres to try cases under Sections 112 and 113 of the Railways Act.
- (v) Where necessary, use of additional police to protect ticket examiners.
- (vi) Siting of booking offices outside stations so that passengers do not have to come on to the platform to purchase tickets.
- (vii) Appointment of watchmen at ends of platforms to stop unauthorized exit or entry, where desirable.

Little need be said about the second, or 'penniless' class of ticketless travel. By definition, nothing can be recovered from him and he is not, therefore, a direct source of loss to the Railway. If ticket checking is thoroughly effective, the penniless traveller disappears: he either stays at home, or finds some other mode of conveyance.

The third type of ticketless traveller is the definite responsibility of the railways: it may be said that railways have created him by their own inefficiency. As we have seen, the number of passengers has doubled in recent years: this means double the pressure of work at booking offices at train times, seeing that there has, so far, been little, if any, increase in the number of trains. Yet, in most cases, stations are working with the same number of booking windows as they had ten years ago. Shortage of booking accommodation is often accentuated by slack work on the part of the booking staff, in such ways as not opening booking windows at the time ordered and not giving prompt attention to III Class passengers. The remedies are, more booking windows, keener supervision, and, where necessary, disciplinary action against staff who are not attending to their duties with promptness and diligence. We are also not satisfied that ticket checking staff are adequately supervised.

The steps that we have suggested are undoubtedly expensive, but if the recoverable annual loss is even 50 per cent. of the Rs. 8 crores estimated by the Board, it is worth spending money to reduce this leakage. One difficulty that we foresee later on is that it is not easy to 'justify' continued expenditure on preventive staff. If steps taken on any particular section are effective, then the 'Cheat' learns the error of his ways, the 'Penniless Passenger' stays away and the 'Victim of Circumstances' finds his difficulties removed; 'recoveries' by the preventive staff may then sink to a point well below the cost of their salaries. The 'justification', the hypothetical loss of earnings that would be occurring if the preventive staff were reduced, can only be surmised. The result is that sooner or later someone in authority is apt to suggest 'axing' a few of the checkers 'who seem to be just eating their heads off'.

This actually happened on the Great Indian Peninsula Railway suburban section: the 'Crew System' was introduced in 1927 and, after a comparatively few months, the excess fare collections dropped to a very low figure: it thus became impossible to 'justify' the extra cost and the 'Crew System' was dropped.

The evil is now so serious that all railways must tackle the problem energetically, and from every angle. Further, precautions taken which are found to be effective should not be relaxed merely in ground of expense: this is a 'penny wise and pound foolish' policy. It should be possible to arrive at some rough arithmetical relation between the number of travelling ticket checkers, number of trains and number of passengers to be checked daily which would help to show up any sections where the number of staff employed on checking may be excessive.

It has been suggested that the difficulties of booking large numbers of passengers during rush hours on suburban sections might be eased by the

introduction of 'passimeters', automatic ticket machines and other mechanical aids. We hope that suitable experiments will be tried, though automatic ticket machines can hardly have much future in India, unless the paper rupee one note is replaced by metal coins. The complications of Indian currency, including square and polygonal coins, will also set some knotty problems for the makers. These objections apply with less force to the use of passimeters which should definitely speed up ticket issue at busy suburban stations, but the operator would have to be carefully selected, well trained and, probably, specially paid.

But there is no possibility of stopping, or even reducing, ticketless travel until the railway staff exert themselves more energetically to combat **this evil**: we do not say that this applies to all sections, or even to all railways, but certainly in many parts of India the staff are, to say the least, turning a blind eye to the ticketless traveller. This must be changed, and quickly.

Another important matter affecting ticketless travel is the availability of tickets. The great increase in passenger traffic has severely strained the ticket printing capacity of the various railways' ticket printing presses. Some presses have been working day and night for the last three years or more and even then stations have occasionally run out of tickets. We are glad to hear that the Board have forty additional ticket printing machines on order, of which the first four are already on the way. We are also glad to be assured that future requirements of ticket blanks are adequately covered.

### G. Advisory Committees

150. The Acworth Committee in paragraph 139 of their Report laid stress on the importance of giving to the Indian public an adequate voice in the management of their Railways. Accordingly, they recommended the establishment of Central and Local Advisory Councils.

From paragraph 141 of their Report, it is clear that the Committee contemplated the establishment of a Central Advisory Council on the model of the Polish Railway Council and they suggested that it should be composed mainly of non-officials. One-half of the non-official Members, it was suggested, should be nominated by the leading Commercial and Industrial Association, both Indian and European. The other half should be representative of the rural interests and of the travelling public in different parts of the country. In addition, they suggested that the Council should include representatives of the Departments of Commerce and Industries, Agriculture, and possibly some others.

To implement the Committee's recommendation, a Central Advisory Council was constituted in March 1922, consisting of 3 officials and 13 non-official Members. The first Committee so formed contained an imposing list of prominent businessmen and those interested in Commerce and Industry. As the name implies, the function of the Central Advisory Council is purely advisory.

The question of the establishment of Local Advisory Committees on Railways was discussed in a meeting in Calcutta on the 7th December, 1921, presided over by the Hon'ble Member for Commerce and Railways, to which representatives of the Government of Bengal, Bihar and Orissa and the Agents of the Calcutta Railways were invited. Subsequently, a letter was addressed to General Managers (then Agents) on the 23rd December 1921, calling for their views and asking them to consult the Local Governments.

After obtaining the views of all concerned, the Railway Board placed a memorandum before the Central Advisory Council, regarding the proposed constitution and functions of the Local Advisory Committees. The memorandum was considered by the Central Advisory Council at their second meeting held on the 1st September 1922 and they agreed that separate main committees (and also branch committees in some cases)

should be constituted for each administration. In respect of the constitution of these committees, the Central Advisory Council recommended that each Committee should consist of 12 Members as under:—

General Manager (then Agent)—*ex-officio* Chairman.

Two Local Government Members to be nominated by the Local Government.

Three Representatives of the Legislative Council (Members should be selected to represent rural interests and the travelling public).

One Member from the Local Municipality or corporation at the Railway Headquarters.

Five Members representing industries, Commerce and Trade.

As regards the functions of these Committees, the Central Advisory Council recommended as follows:—

“Functions of the Committee should be purely advisory: the sort of subjects which might suitably be placed before the Committee are:—

- (i) Alterations in time-tables and passenger services;
- (ii) alterations in rates and fares and changes of goods classifications;
- (iii) proposals in regard to new projects and extensions;
- (iv) proposals in regard to new rolling stock; and
- (v) matters affecting the general public interest and convenience.

Question of personnel, discipline and appointments will not be brought before the Committee. Subject to this condition, any Member may suggest a subject for discussion but the General Manager (then Agent) may rule out any subject for reasons which should be explained at the first meeting after the ruling has been given.”

In 1937, it was decided that a seat should be given on every main or branch Local Advisory Committee to a Member of the Central Advisory Council. At present, 26 Local Railway Advisory Committees are working on the various railways, as follows:—

E. I. Railway.—Two, one at Calcutta and the other for the United Provinces.

O. T. Railway.—Three, one for Bihar, one for the United Provinces—B. & N. W. zone, and a third for the United Provinces—R. & K. zone.

B. N. Railway.—Three, one at Calcutta, one for Bihar and Orissa and a third for the Central Provinces.

B. B. & C. I. Railway.—Two, one at Bombay and the other at Ajmer. Formation of a third has recently been approved. The three Committees will then represent Bombay Presidency, Rajputana and Central India States, and the United Provinces and East Punjab areas.

G. I. P. Railway.—Three, one for Bombay Presidency, one for the Central Provinces and a third for the United Provinces.

M. S. M. Railway.—Two, one for the Madras Presidency and the other for the Bombay Presidency.

S. I. Railway.—One, at Trichinopoly.

In the course of the last twenty-five years, the Central Advisory Council has diverged very far from the proposals of the Acworth Committee; it now consists solely of representatives of the Central Legislature: it only meets at rare intervals: and its agenda is arranged by the Railway Board. It has, therefore, tended to become a means by which Government can test the feeling of the Assembly before a subject is brought up in the Assembly.

This, we feel is wrong: while the Union Legislature should still be represented, say, by two Members, we suggest that the majority of Members should be chosen by Commercial and Industrial Associations and that an attempt should be made, as proposed by the Acworth Committee, to obtain direct representation of rural interests and of the travelling public. We suggest that the number of Members should not exceed twelve, not counting the Chairman and Secretary or such officers of Government as the Chairman may invite to be present. As is the case with the Local Advisory Committees, Members should be encouraged to suggest subjects for discussion and meetings should be more frequent, we suggest six meetings a year. It is not essential that all meetings should be held in Delhi: it might meet the convenience of Members if the Minister would hold occasional meetings in Calcutta, Bombay, Madras or Kanpur.

We have heard in evidence many criticisms of the working of the Local Advisory Committees. These may be generally summed up as follows:—

- (a) Industries and Chambers of Commerce are insufficiently represented.
- (b) Meetings should be more frequent: monthly meetings were suggested.
- (c) Subjects proposed for discussion were said to be ruled out without any explanation.
- (d) Proposals were turned down without adequate reasons being given.
- (e) Generally, the Committees have no power.

We are inclined to agree about the first complaint: there has been a tendency to give undue representation to Provincial Governments and Local Authorities, such as Municipalities and Port Trusts. We suggest that nine out of twelve of each Committee should be representatives of Chambers of Commerce or Industrial Associations and Travellers Associations. To obtain this, we do not recommend increasing the size of the Committees which are usually large enough: the defect is that they are not sufficiently representative. The representation of the Central Advisory Council on the Local Advisory Committees should be dropped: it does not seem to serve any useful purpose at present.

As regards the second complaint also we feel that this has substance. At one time it was the practice to hold monthly meetings of the Committees which were situated at the headquarters of the railway, but during the war the Board issued instructions that meetings should only be held quarterly. We consider now that the normal procedure should be for all Local Advisory Committees to meet six times a year. We also regard it as important that the General Managers should preside personally at as many meetings as possible.

The next two complaints really form one: we failed to obtain much direct evidence, but we formed the impression that in some cases General Managers were not giving these Committees the consideration that they deserved. There may be, particularly in these busy times, a feeling that a Local Advisory Committee meeting is a sort of unavoidable nuisance, to be finished (like a dose of unpleasant medicine) with the utmost despatch. This is all wrong: any Advisory Committee, if properly handled, can be a source of support and assistance to the administration. There must of course be no suggestion of 'forcing a card' but cases have occurred where, in free discussion, Committees have themselves suggested solutions to problems which they would almost certainly have negatived if the proposal had been made by the administration. The Rules of Business of the Committees are also reasonably clear: the subjects debarred—rightly we feel—are questions of personnel, discipline and appointments: it should be most unusual that any other subject should be refused discussion. Even if a proposal is one on which the Chairman feels that he cannot concede anything at all, there should still be general discussion.

The last complaint is one which is indicative of the sense of frustration existing in the minds of Members of those Committees which have, perhaps, not been too tactfully handled. Clearly Advisory Committees must be advisory and cannot be given power to enforce their views: General Managers are, and must be servants of the Union Government and not of any Local Committee. But if these Committees are given the consideration that they deserve, they would find that, as the Acworth Committee wrote of the one-time Prussian Railway Councils, "They had no powers. But they had great power."

#### H. Other Matters

151. *Rail-Road Competition*.—We do not propose to devote much space to this question, not on the ground of its unimportance, but because we feel that at present it is not a really urgent matter, and, as our report shows, there are plenty of extremely serious problems facing railways which require immediate attention and action. Further, the Wedgwood Report dealt very fully with all aspects of this question.

At present petrol restrictions and shortage and high cost of chassis are severely limiting road transport, both for goods and for passengers. Further the railways generally have more traffic offering, both passengers and goods, than they can efficiently handle and therefore, whatever traffic may now be moving by road cannot necessarily be regarded as a direct loss to the railway.

However, this state of affairs will not, we believe, continue indefinitely. Although in recent years much has been done to provincialise Road Transport, we cannot regard Rail-Road Co-ordination as definitely assured for the future. Although railways are being offered shares in the various Provincial Road Transport concerns, it was made clear by the various Provincial officials whom we interviewed that the Provinces intend to keep the controlling interest in their own hands. As long as present conditions last, we see no reason to fear any serious difficulties, that is as long as the various Provincial authorities are able to make full use of all their available resources on routes which, in general, do not compete with the Railways. But we foresee a time coming when the supply of road transport will exceed the demand and then the Provinces may find difficulty in securing a reasonable return on the important sums which they are investing in road transport. Then, we fear, the rather nebulous bonds of 'co-ordination' may snap and the Provinces may find themselves forced to explore sources of revenue that they have not previously tapped, in other words to start bus and/or lorry services on routes directly competing with the railways. The question of what degree of control in such an event should be retained by the Union Government is a constitutional problem that hardly falls within our terms of reference though it is a matter which, we suggest, require serious consideration. We would rather sound a note of warning to the railways. Railways should watch developments carefully, as when the situation we suggest above arises, it will be a testing time for the Commercial Departments of the railways concerned. We hope that no Chief Commercial Manager will be caught unprepared.

152. *Inland Waterways Competition*.—Had it not been for Partition, we should probably have had to devote considerably more attention than we have done to the problem of Inland Waterways Competition with railways. The navigable waterways in the Ganga-Brahmaputra Delta are mainly in East Bengal and are now outside the Union of India. To this extent, therefore, Indian Government Railways have been relieved of a form of competition which has been a source of serious loss in the past. But the problem has by no means entirely disappeared. The inland steamer routes extend into Assam, by both the Brahmaputra and Surma rivers, and, to a lesser extent, up the Ganga into West Bengal and Bihar. Further, the two British owned companies principally concerned, the River Steam Navigation Company and the Indian General Navigation and Railway Company, have found their position greatly strengthened in that they can still offer through transport between Calcutta and Assam, through East Bengal, while the Indian Railways will not be able to offer

through transport until the Assam Link is completed. From what we were told when we visited Gauhati, it appears that the Steamer Companies are now obtaining a virtual monopoly of traffic between Calcutta and Assam, including the valuable tea and jute traffic. We note also that the Steamer Company's rates are not subject to the control of the newly set up Rates Tribunal. At present, Indian Railways can hardly complain as they are not in a position to offer alternative means of transport. But we fear that the hold over this traffic at present enjoyed by the Steam Companies will become so strong that it may be difficult for Indian Railways to secure even a small share of this traffic when the Assam Link is opened.

This is a problem for the Union Government, and unless they take suitable steps to control Inland Water Transport in and out of Calcutta, there will be little chance of securing a reasonable quantum of traffic for the Assam Link.

153. *Bribery and Corruption*.—It is no part of our responsibilities to assess the seriousness of the situation caused by the increase in bribery and corruption. This evil is certainly not confined to the railways, and we have no reason to believe that the evil on the railways is any worse than, or even as bad as what prevails in other walks of life or in other Government Departments

There are two main classes of offence: the first and perhaps less serious though certainly more prevalent, is the expectation, if not insistence on, illegal gratification before a Railway Servant will afford the facility or assistance that he is paid to give and to which the customer is entitled in view of the fare or freight that he has paid. The second class of offence is the acceptance of money to give a service to which the customer is not entitled: this includes such matters as connivance at ticketless travel, booking of goods against restriction, or provision of wagons out of turn. Recently a third class of offence has appeared, though we believe this is not so prevalent as the other two: we refer to the demanding of payment by Railway Staff after wagons have arrived at destination and before they are placed for unloading, under threat that otherwise the wagon will be misdirected and 'lost'.

These clearly are evils for which there is no general or infallible cure. At present some of the travelling and business public appear to acquiesce in the payment of additional premia for service, and to consider it 'smart' to obtain by bribery an advantage to which they are not entitled. As long as such an attitude prevails, bribery and corruption will continue. Preventive action against railway staff and deterrent punishment of proved offenders may keep the evil in check but will not eradicate it. We have heard that in some cases complaints by the public about the actions of members of the railway staff have been dealt with in a very dilatory manner. Certainly the competent officer must be careful to see that the complaint is properly substantiated and that the members of the staff concerned is really at fault. But when this is established retribution must follow swiftly in order to be effective.

But it would be wrong to consider that the Railway Administrations and the Railway Board have not been alive to this evil or have neglected steps to combat it. Some railway, notably the S. I. and B. B. & C. I. Railways have taken fairly effective steps to eliminate the seat reservation 'racket'. We believe also that the E. P. Railway have recently made certain changes at Delhi to curb effectively the exploitation of passengers by unscrupulous members of the staff.

In 1942-43, the Indian Railway Anti-Corruption Organisation was set up, under a senior and specially selected police officer. This Organisation has always had to face great difficulties not least of which has been the general disinclination of the public to come forward and give evidence. But up to the 31st March 1947, this Organisation had taken up 490 cases and had obtained conviction in 223 cases. Though we know it is often difficult to obtain evidence, we should like to see more action in the way of prosecution of bribe givers as well as of bribe takers.



We believe that, in practice, no effort is made to enforce Rules 8 to 13 of the Railway Servants Conduct Rules (Appendix XI of State Railway Establishment Code, Vol. I). Admittedly some of these rules would be difficult to enforce but we see no reason why Rule 11, at least, should not be complied with. The Rule reads as follows :—

“Control over Immovable Property held or acquired by railway servants :—Every railway servant or candidate for service under the Crown must make to the Government, through the usual channel a declaration of all immovable property which may from time to time be held or acquired by him or by his wife or by any member of his family living with, or in any way dependent upon him.

Such declaration should state the district within which or the Prince or Chief in India within whose territories the property is situated and should give such further information as the Government may by general or special order require.”

Note :—This rule is not applicable to railway servants in inferior service and to daily rated employees and labourers in railway workshops or running sheds.

Honest railway servants could not object to comply with it, others might attempt to evade it. Evasion of this rule might be easier to detect and prove than actual dishonesty.

154. *Mela Traffic*.—We think it advisable here to refer to the question of Mela Traffic: at present and for some years past Mela Traffic has been a headache to Railway Officers and at times magisterial assistance has been given in the shape of orders restricting movement of pilgrims. This must change eventually, and we hope soon: as soon as the Railways feel they are getting on top of their present problems of over-crowding they should start to plan for Mela Traffic, not only in order to meet popular demand but also in order to improve revenue. We speak of this particularly as by then the younger generation of officers will have had no previous experience of Mela Traffic. With careful planning and preparation, and good publicity, pilgrim traffic can, we believe, be a very useful source of revenue. While the work of planning largely devolves on the Operating Department, the financial success or failure mainly depends on the Commercial Department. Each Mela may be said to have a fairly definite cash value: that is to say there is a certain top limit to what the poorer pilgrim will pay to attend the mela. The Commercial Department have to find out and settle for themselves what this limit is likely to be and then arrange their concessions within that limit. The granting of concessions at levels above what the poorer pilgrim is prepared to pay may be a source of loss; it does not attract the poor passenger and reduces the fare paid by the more wealthy pilgrims, who might otherwise pay the full fare. The Commercial Department, therefore, has first to determine what the money value of the particular mela is likely to be, and then to decide over how wide a circle it is necessary to extend these concessions in order to ensure that the facilities to be provided in the shape of special trains are well patronized, without going so far as to risk a deluge of pilgrims swamping the maximum possible capacity of the railway to move them, particularly on the return journey which presents the most serious difficulties.

155. *Railway Protection Police*.—There has, for many years, been an agreement between the Provinces and the Centre that the cost of Government Railway Police would be divided between the Railways and the Province: the Railway paying for the Police engaged on ‘Order’ duties and the Province paying for those engaged on ‘crime’ duties.

The responsibilities of the ‘Order’ Police are defined in Section 1272 of the State Railway General Code, and include such duties as control of passengers inside Railway premises, control of vehicular traffic in station compounds, maintenance of order in passenger trains while standing at stations, arrest of those committing minor offences at stations, removal of dead bodies from trains and conveyance to hospital of sick passengers.

The cost of the 'order' police borne by Indian Government Railways in 1946-47 amounted to Rs. 53·5 lakhs.

In 1946 there was a serious increase in crime on Railway premises, including robbery and murder on running trains, looting of goods trains and attempts at sabotage. The 'Crime' section of the Government Railway Police and the Provincial Police were not able, in some Provinces at least, to take effective action. The position became so serious that the Railway Board agreed to the Railway Administrations negotiating with Provincial Governments for the appointment of special armed police for the protection of Railway property, railway staff and passengers, the cost of which would be borne by the Railway concerned. Initially this was sanctioned for six months only, presumably in the hope that after that these special precautions would not be needed. Special Railway Protection Police were enrolled in the Provinces of Assam, West-Bengal, Bihar, Orissa and the United Provinces and the annual cost to the Railway concerned is about Rs. 43 lakhs.

We do not criticise the decision to set up the Railway Protection Police force, and unfortunately the situation in the Provinces concerned is not such as to cause us to recommend early disbandment of these forces, though we trust that the strength necessary is periodically reviewed by the Provincial Authorities in conjunction with Railway Administrations. This is an important variation of the old agreement, and should we think, form the subject of further negotiations between the Centre and the Provinces.

## CHAPTER VII

### Electrical Organisation and Electrification

156. *Scope of the Electrical Department.*—This question is perhaps one of the most difficult problems that we have to face.

First, we examine the question historically. In the early days the Block Telegraph was the only case where electricity was put to practical use on railways. It was very many years later before Electric train lighting appeared, and about the same time the use of electric motors to drive machine tools and equipment in mechanical workshops became fashionable. In the last twenty-five years all that has changed. Electric lighting of the larger yards and stations is now a standard practice; electric signal equipment, track circuiting, colour light signalling, and electric lock and block apparatus have made steady headway; electric traction has appeared on three railways and will certainly extend; there has been a steady growth of electric pumping plants, and the use of electrically driven machine tools and plant has spread from shops to sheds; more recently still we have seen the introduction of fluorescent lighting and air conditioning in offices: the telephone in connection with control and other communications has steadily extended: the railway wireless network has come to stay: perhaps railways may use carrier telephony before long: the use of wireless to improve control in large marshalling yards may come soon: the diesel electric locomotive has already appeared, on the B. B. & C. I. Railway; and the gas turbine locomotive with electric drive is only round the corner. Further, the growth of National or Provincial Grids will facilitate and cheapen the use of electricity not only for traction but also for lighting, pumping and other ancillary purposes.

We now trace the growth of Electrical Departments on railways. The earlier uses of electricity, as we have seen, were chiefly in connection with train lighting and the use of electrical power in mechanical workshops; it is, therefore, natural that the first electrical engineers to be appointed were assistants to the Chief Mechanical Engineers, seeing that their work was entirely connected with matters for which the Chief Mechanical Engineer was responsible. But as the scope of the Electrical Department work has extended beyond the bounds of the Chief Mechanical Engineers' responsibilities the Electrical Department on many railways has become a separate department and not, as in the past, a sub-department of the mechanical department. This has not been an unmixed blessing: as one Chief Mechanical Engineer put it, referring to his Chief Electrical Engineer, "in the past when I wanted something I sent for him: now I have to write letters to him: it all wastes time." Signal Departments on railways have generally developed their own technique for dealing with all electrical equipment in their charge, without assistance from electrical departments. This is as it should be. The G. I. P. Railway formed a separate Traction Division, as a sub-department of the Transportation Department, to maintain and operate the electrified Bombay Division: this also appears to be the correct course. Traction Engineers, whether engaged in generation, distribution or maintenance of electric locomotives and stock require much more specialised training than the average Electrical Engineer possesses. On the other hand, the very much smaller traction installations in the B. B. & C. I. and S. I. Railways are successfully maintained by their respective Electrical departments which include traction specialists.

As regards wireless installations, the practice varies. On some railways, the electrical department is responsible for wireless: on others the Signal or Tele-communication sub-department staff operates and maintains the wireless network.

Lastly, we must refer to the interesting though rather freakish organisation on the G. I. P. Railway: on this railway, there is, as we have seen, a Traction Division which is a sub-department of the Transportation Department. There is also a Signal department which is a sub-department of the Engineering department and which is responsible for power and electrical

signalling as well as mechanical signalling: in addition there is a further sub-department of the Transportation Department known as the Telegraph Department which, in addition to Telegraph and telephone communications is also responsible for wireless and for train lighting and air conditioning maintenance. Lastly, there is an Electrical Department which is a sub-department of the Mechanical Department and is responsible not only for all electrical work in Mechanical Workshops but also for the maintenance and running of power houses elsewhere on the railway, other than the Chola (Traction) Power House, and for electric lighting generally.

While, we do not recommend the general adoption of the G. I. P. system of organisation, we mention it as an interesting example of gradually decentralising electrical work so that, roughly, each of the main departments contains subsidiary organisations to look after the electrical work that falls within the main responsibilities of that department.

It seems now that the question has to be faced: should electrical work on railway be centralised or decentralised?

In favour of centralisation, it may be urged that the great and ever growing importance of electrical work on railways demands that the best brains should be attracted to the Electrical Departments and that the best way to secure this is to combine all or nearly all Electrical activities into one strong department under a Chief Electrical Engineer who should rank in pay and status with the Chief Engineer and the Chief Mechanical Engineer. A multiplicity of small sub-departments may not attract the right men owing to the limited prospects offered.

Against centralisation, it has to be realised that electrical engineering has now developed so widely that some degree of specialisation is inevitable. It is not feasible for any one man now to become really expert in Generation, Distribution, Wireless, Electric Traction and Power Signalling, to mention a few main branches. Probably, no single Consulting Engineer would claim encyclopaedic knowledge of all these. Also, at the other end, no one now can obtain an Engineering degree without at least a nodding acquaintance with the fundamentals of electrical theory.

Generally, we feel that the balance of the argument is in favour of decentralisation. Just as signal departments have, quite efficiently, taken on their growing electrical responsibilities, so gradually the officers of other technical departments should assume responsibility for the simpler aspect of electrical maintenance. The principal exception must be in the field of electric traction. This work is so specialised, and also so concentrated and localised, that it can best be entrusted as on the G. I. P. Railway to a sub-department which can most notably be a sub-department of the Operating Department with which it is most closely allied, at any rate unless and until traction work on any one railway becomes so widespread as to merit the Traction sub-department being raised to the status of an independent department. This sub-department should also be responsible for Diesel or Gas Turbine Locomotives maintenance.

Then, we suggest that the bulk of the remaining responsibilities of the Electrical Departments should be merged into those of other technical Departments as follows. The changes suggested are purely at gazetted officer level: subordinate establishments would be maintained intact as at present, merely being transferred from the Electrical Department to the department taking over their respective responsibilities. We suggest then that Operating (Power) Officers should be responsible for train lighting and head light and generator maintenance and electric pumping. We believe that this practice is already in force on the Nizam's Railway. Civil Engineers should be responsible for yard and station and office lighting. Each Chief Engineer will require an Electrical Assistant for new work who should be of the status necessary to qualify him to be an Electric Inspector to Government. Mechanical Engineers should also take over responsibility for the maintenance of electrical equipment in shops. There remains the question of the maintenance and operation of electric power houses. We visualise that in future years these will gradually disappear as cheaper

power becomes available from National or Provincial Grid systems. Meantime it will be necessary to maintain some Electrical Officers to oversee the maintenance and operation of these power houses. Electrical Departments will then gradually disappear: officers who are not suitable or cannot qualify for transfer to the Traction or Signal and Telecommunications Departments, which will be responsible for all the more advanced electrical work, should be absorbed in other technical departments.

This proposal may at first sight appear rather revolutionary: as if it were proposed that the best way to deal with the growth of electrical activity generally were to abolish Electrical Departments. That is not the basis of the proposal: it is rather that instead of abolishing the Electrical Department, all Technical Departments should become Electrical Departments and all officers of Technical Departments in future should have electrical qualifications, though not necessarily of a high order. This will not necessitate any alteration in the educational qualifications at present prescribed. But there will be no room in future for the merely 'practical man', the glorified blacksmith type of officer, at any rate above the lower rungs of the ladder.

We fear that the development of electric traction may be delayed or rendered unnecessarily expensive owing to the lack of experienced Traction Engineers in this country. This is a matter which will take time to put right and therefore should be tackled promptly and without waiting until future electrification schemes are actually in hand. There is considerable scope on the G. I. P. Railway for the training of suitable officers though the training can only be completed by experience outside of India. The difficulty will be to persuade administrations to spare some of their brighter young officers for what must be a prolonged period during which the officers' services will be lost to the railway. This must be faced and is a matter on which the Board should make the decision and issue the necessary orders.

This brings us to the question of the control of development of electrical work generally in the Board's office. At present there is no machinery in the Board's office for the critical examination of electrification projects or even of proposals that railways make for the purchase of comparatively advanced electrical apparatus. We believe for instance that Khargpur Workshops are the only railway shops in India equipped with a flaw detector.

There appears to us at present to be too great reliance on Consulting Engineers for the preparations of projects. Railways should be capable of preparing and working out the details of their own electrification schemes as in fact the G. I. P. and B. B. & C. I. Railways have already done and B. the Consulting Engineers should then be asked for their opinion on the schemes. In fact, the role of Consulting Engineers should be consultative and not executive.

We need not go into detail but we do feel that there is urgent need for the appointment in the Board's office of a senior and experienced officer whose first duties will be to examine and advise on the various electrification projects now before the Board and also to select officers for special training in traction work and to arrange for their training. Later, his duties may be extended to co-ordinating electrical research on railway problems.

*157. Main Line Electrification.*—In considering the question of main line electrification it is as well to start by setting out in general terms the main advantages claimed for electric as opposed to steam locomotive haulage.

Even where thermal power stations are used to supply power for electric traction, coal economy of the order of 60 per cent. may be obtained. Further, thermal power stations can be designed to burn very low grade coal. Where hydro-electric power is available, the coal economy is 100 per cent.

The higher acceleration of electric locomotives as compared with steam locomotives of comparable power, combined with the absence of stops for coaling, watering and fire cleaning, permits the attainment of a considerable

increase in average speed of trains without increasing the maximum speed. The capacity of the section of line concerned is therefore increased. This improvement is most marked in the case of steeply graded lines. Further, the absence of a tender reduce the weight of an electric locomotive to not more than 65 per cent. of the gross weight of an equivalent steam locomotive, so rendering possible an increase in the permissible trailing load. This can be still further increased because an electric locomotive, owing to its perfectly even torque, can exert a higher tractive effort without supping than a steam locomotive with equivalent adhesive weight.

An electric locomotive requires no "lighting up", or coaling or washing out. The time required for maintenance and repairs is also much less than in the case of a steam locomotive. An electric locomotive is, therefore, capable of about twice the annual mileage of a steam locomotive, so giving considerable saving in capital costs of locomotives required for a particular service, in spite of the fact that the capital cost of an individual electric locomotive may be 50 per cent. higher than that of a steam locomotive of equivalent power.

The driver of an electric locomotive has a clear view ahead, not interrupted or obscured by a large boiler and smoke and steam. He also has nothing to distract his attention as has the steam driver, and works in temperate and comfortable conditions. Therefore there is much less chance of his failing to observe signals correctly. Against this it has to be remembered that the presence of overhead structures makes good sighting of signals more difficult and therefore may increase expenditure on signalling.

Annual maintenance costs for electric locomotives are much lower than those for steam locomotives, largely due to the absence of boilers or reciprocating parts which are subject to heavy wear and tear. Such costs should not exceed 50 per cent. of steam locomotive costs in spite of much higher annual mileage. Further, electric locomotive maintenance is comparatively 'clean' work so that the staff concerned can carry out their duties in much pleasanter conditions, with resultant improvement in contentment and morale. Lubricating oil costs are also only a small percentage of that needed for steam locomotives.

An electric locomotive only requires two men to drive it instead of three. Coaling and watering staff are obviated. Fewer cleaners are required. Less maintenance staff are necessary. Further, these reductions are all in the lower or lowest categories. Requirements of more highly skilled and therefore better paid men are increased. Sub-station maintenance provides further vacancies for skilled men. This all helps to secure a narrower base for the staff pyramid with improved prospects for the ambitious and industrious.

These advantages are greatly increased if the line to be electrified includes a suburban section with sufficient passenger density to warrant the use of multiple unit electric trains. The improvement in ability to move intensive traffic is most marked, *vide* paragraph 121, Chapter V.

The above are the considerations which have to be evaluated in each individual case in justification of the very heavy capital expenditure necessary for the overhead contact wire and track equipment and sub-stations. This may amount to something of the order of Rs. 2.5 lakhs or more per route mile of double track without allowance for the cost of high tension transmission lines in cases where a grid supply is not available. From this it is clear that it would not normally be possible to justify electrification on a strictly railway financial basis, unless the traffic density is of a fairly high order or unless the section considered is at a great distance from the nearest source of coal supply or has exceptional gradients, *e.g.*, the G.I.P. Bhore and Thall Ghats.

There is also the national consideration that electrification will result in great economies in coal consumption and will open up possibilities of using coal of a quality that would otherwise have little commercial value. Lastly, by obviating smoke and reducing noise, electrification has considerable amenity value, particularly in built up areas.

Generally our view is that there can be no question as to the importance of extending electrification on Indian Railways whenever financially justified: the problem is rather which sections should come first and how the projects can be carried out economically.

The first essential, which we have discussed in a previous paragraph, is the training of more Traction Engineers, so that the employment of 'foreign experts' can be kept down to a minimum.

Another important problem, though it hardly falls within our terms of reference, is that of the setting up of a heavy electrical industry in India. One objection that may be raised against electrification schemes at present is that a very large percentage of the stores and materials required have to be imported.

In conclusion, we would refer to what is called the Terminal problem in electrification schemes. As we have seen, one advantage of electrification is to increase line capacity and to enable a railway to move more traffic over the electrified section than can be worked by steam haulage. This advantage, clearly will be lost if there are insufficient facilities provided for moving the traffic onwards beyond the limits of the electrified section. To take a practical instance: the electrification proposed on the E. I. Railway from Howrah to Moghal Sarai will undoubtedly materially increase the railway's capacity to move traffic over the Grand Chord. But it will not be possible to make full use of this additional capacity unless facilities beyond Moghal Sarai, allotment of steam locomotives, line capacity, terminal and junction capacity, are suitably correlated to cope with the traffic that it may be planned to move over the electrified lines below Moghal Sarai. We do not suggest that this problem is likely to be overlooked, but to regard an electrification project as an isolated matter, without full consideration of possible repercussions outside the electrified area, would be dangerous.

## CHAPTER VIII

### Railway Stores Organisation

158. The Stores Organisation on the Indian Government Railways has to be designed with considerable care as on its efficiency would depend the economical and efficient working of railways. An inefficient Stores Organisation is a constant source of danger to the maintenance of efficient transportation. Serious losses can be caused to the railways by defects in that organisation, while considerable gains can be assured by maintaining that organisation at a high pitch of efficiency. The Railways purchase every year huge quantities of stores, both for their capital equipment and for their day-to-day working. The arrangements which were found adequate before the war, proved unequal during the war. Towards the closing stages of the war there might have been a break-down but for the various controls and other special measures introduced by the Government, and the considerable expansion of the Stores Organisation of the Railways, particularly at headquarters. In planning the future Stores Organisation, it is essential that provision should be made for meeting emergencies of the kind which arose, during the last war.

159. *Stores purchases and issues.*—The Railway Stores Purchase Organisation in the Railway Board deals, among other things, with certain important items of stores which have special features and may be excluded from our review. Those special items include :—

- (i) Rolling Stock,
- (ii) Rails, Sleepers,
- (iii) Coal, and
- (iv) Food grains and Grocery Stores.

Excluding these special items, the turnover from year to year commencing from 1937-38 was as shown in the statement below :—

TABLE 1

(In Lakhs of Rupees)

Period	Opening balance	Purchases	Issues	Closing balance.
1937-38	8,87	9,12	8,75	9,24
1938-39	9,24	9,71	8,87	10,08
1939-40	10,08	9,86	8,70	11,24
1940-41	11,24	10,41	9,16	12,47
1941-42	12,49	9,57	9,16	12,93
1942-43	12,90	12,27	9,89	15,21
1943-44	15,28	16,98	10,96	21,31
1944-45	21,31	22,89	20,32	23,81
1945-46	23,88	26,34	23,26	26,93
1946-47	26,96	16,29	13,51	29,71

It will be noticed from the figures given above that upto 1942-43 there is hardly any change in the issues. Between 1943-44 and 1944-45, there is a steep rise in issues, for which higher prices were, no doubt, one of the main reasons. The closing balances show a steady increase. The increase is, however, most marked in the year 1942-43 and 1943-44, i.e., in the year before the steep rise in issues takes place. The sharp increase in the closing balance is, in the opinion of the Committee, partly due to increase in prices and partly due to increase in quantities that were accumulated to meet the increased demands and to ensure against uncertainty in supply. Even at pre-war price levels, the purchase branch played an important part in the Stores Organisation and its importance at the current price levels cannot be over-estimated.

Purchases of stores are made by three different agencies, namely :—

- (a) the Industry and Supply Department,
- (b) the Railway Board, and
- (c) individual Railways.



The Industry and Supply Department in its present form came into existence during the war absorbing the Indian Stores Department which used to handle the purchase of railway stores. The items of stores which should be purchased through the agency of the Industry and Supply Department have been specified in the Railway Stores Code, and during the war, additions have been made to the list of these items as occasion arose.

Practically every railway has complained of difficulties which they ascribed to the fact that the purchases were entrusted to the Ministry of Industry and Supply. There have been complaints of inferior quality, high prices, and the most serious of all, enormous delays. Some of the Stores Officers told us that they could purchase some of the items cheaper and quicker than the Industry and Supply Department. One of them also stated that direct contacts with the suppliers by the railways produced more satisfactory results in obtaining supplies promptly, particularly in respect of items which were in short supply.

It is to be admitted that conditions during the last several years have been abnormal. It is very difficult to say whether individual railways could have managed their purchases better, if they had been left to themselves. The officers of the Industry and Supply Department admitted that their organisation had not been as successful in meeting the demands of the railways as it should have been. They, however, claimed that they had to contend against enormous difficulties and that, as conditions improved, they would be in a position to give satisfaction in regard to the supplies the purchase of which might be entrusted to them, but we cannot ignore the argument that whatever the difficulties in the way of getting supplies may be, the essential needs of the railways must be satisfied without undue delay.

160. *Interim Report and the action taken thereon.*—In our interim report which will be found in Appendix XXVII we had recommended that two selected railways, one at Calcutta and the other at Bombay, should, as an experimental measure, be entrusted with full purchasing powers for all stores, whether indigenous or imported, except for items controlled by the Railway Board, and that periodic statements of imported stores purchases made by railways should be submitted to the Ministry of Industry and Supply so as to enable them to safeguard the interests of the country in respect of industrial development.

We were informed by the Secretary, Railway Board, in March 1948, that the above recommendations were unacceptable to the Ministry of Industry and Supply on the grounds that the present difficulties in purchases, which were inherent during this present state of shortage of trade supplies in the world market, rendered any proposal for decentralising purchases impossible at this stage; and that besides currency difficulties, the multiplication of purchase agencies would lead not only to the payment of higher prices for supplies but to chaos in production.

We understand that the Ministry of Industry and Supply have decentralised 39 main items, equivalent to 2500 railway indent items, out of approximately 20,000 indent items, which railways can now obtain through the Regional Directors of Supplies in Calcutta, Bombay or Madras, and that the general financial powers of purchase of the Controllers of Stores for each I and S. items have been enhanced to a limit of Rs. 15,000, and that railways have been permitted to exercise full powers to effect purchases out of the stocks in the country in respect of the following imported stores:—

- (i) Steam locomotives and their parts and fittings.
- (ii) Electric locomotives and their parts and fittings, and
- (iii) Signalling Interlocking material.

While fully appreciating the views of the Ministry of Industry and Supply and the action taken by them to improve the supplies of materials to the railways, we are convinced from the discussions we have had with the Railway Administrations that railways are still experiencing enormous delays and difficulties in the procurement of their essential requirements in respect of stores. This delay has very seriously affected the proper repairs and maintenance of stock and equipment, and the position of the railways in this regard does not appear to have improved since last year. When our

Interim Report on the Railway Stores Organisation was submitted. We feel that the reason was that the volume of work of stores purchase in the Ministry of Industry and Supply was so heavy that it was difficult for them to bestow as much attention on the purchase of railway stores as was needed to ensure regular and prompt supplies of thousands of 'odd' items to the railways, at a time when the stores supply position was acute. We are not blaming any individual but the system. We have been told, that many items of stores could be procured locally and without delay by the railways themselves or that they could get these items through the local sources.

In view of the fact that the stores supply position on the railways is still serious, we consider, that it would be best, at least for some time to come, to decentralise further the purchase of such stores, as can more easily be procured locally, and entrust it to the railways. We realise, however, that any decentralisation of the purchase work, under which the same type of stores might be purchased in the same market by different agencies, might lead to difficulties, but in view of the fact that railway transport is so essential to the country, it is in the interest of all departments to give to the railways a reasonable priority or privileged position. For this purpose we recommend that a joint committee of the Railway Board, the Ministry of Industry and Supply and the Railway Controllers of Stores, should draw up a list of items, for which the powers of purchase might be decentralised with advantage to the railways. It is not necessary that this list need be uniform for all the railways as much would depend upon the availability of materials in the various areas served by them. We do not visualise any increase in the financial powers of the Controllers of Stores, the purchases should normally be approved by Tender Committees.

161. *Commission payable to the I. and S. Ministry for purchases.*—It was pointed out in our interim report that the Ministry of Industry and Supply was charging the railways one per cent. for making purchase and one per cent. for inspection. These percentages were fixed several years prior to the war. With the inflation in prices, the application of the same percentages resulted in larger payments by the railways to the Ministry, compared to the quantity of materials purchased through them. It was, therefore, suggested that negotiations might be carried on with them for getting the percentage charges reduced, either *en bloc* or by graduated scales. We have been advised that at a joint meeting held between the Ministry of Railways and the Ministry of Industry and Supply, it was decided that that question should be discussed between the Financial representatives of the two Ministries. We are not aware of any further developments in this case, but hope that their representatives would meet soon and arrive at a satisfactory solution.

162. *Organisation.*—In paragraphs 16 to 21 of our Interim Report, we dealt with the organisation of the Controller of Railway Supplies. We hold the view that eventually the handling of all demands for stores placed on the Ministry of Industry and Supply should be the sole responsibility of that Ministry but suggested that owing to the persistence of an unsatisfactory position regarding the supply of materials on the railways, the time had not arrived for the abolition of the organisation of the Controller of Railway Supplies. The Railway Board have, however, considered that the interests of the Railway would, in the present circumstances, be best served by merging the Organisation into the Ministry of Industry and Supply, and maintaining in the latter a Liaison Officer on behalf of the Railways. The merger was given effect to on the 1st August 1948, but while it was being implemented it was considered that before the Controller of Supplies Organisation was actually closed down, the Board should have an opportunity of watching the working of the merger for a short while. The organisation was eventually abolished on the 15th August 1948 and a Liaison Officer was appointed to keep in touch with the Industry and Supply Ministry. The reasons given for the merger were that:—

- (a) some duplication which occurred then would be saved,
- (b) delay would be reduced,

- (c) the posting of a railway representative as Liaison Officer with the Ministry of Industry and Supply would enable the Board effectively to keep a watch on the progress of indents.

We think that the action taken by the Railway Board in this connection was premature and would stress the fact that the stores supply position on the Railways was still serious and that the continuance, for some time, of an efficient organisation, in the nature of a chasing agency, like that of the Controller would have been beneficial. If the organisation was defective, the remedy should have been to improve it and not to abolish it. We doubt whether a Liaison Officer would be as effective as the Controller's organisation should have been.

We do not consider that the stores supply position on the railways has improved since we submitted our Interim Report; on the other hand, we have evidence to the effect that it is still causing a great deal of anxiety to the Railway Administrations. There have been delays in the past not only on the part of the Ministry of Industry and Supply but also on the part of the Railway Organisation. As a case in point, it may be mentioned that a Railway on the 26th August 1947, telegraphed to the Board asking for permission to make certain direct purchases of stores not included in 1948 indents but no orders had been issued by the Railway Board as late as December 1947. Our attention has been drawn to another case also in which there was very serious delay in obtaining essential spare parts expected to cost about Rs. 60 lakhs, for locomotives. Indents were placed on the Industry and Supply Ministry in April 1947, but because of Partition, which raised the question of apportionment of Stores between the two newly formed Dominions, the execution of the indent was delayed. The Railway Board must have known that these parts were urgently required, that a good proportion of the locomotives was out of commission, and that the entire stock of spare parts, generally speaking, could have been consumed by the Indian Railways even if the Pakistan Railways were unable to take their share. This stoppage of the execution of the indent on the part of the Industry and Supply Ministry, was apparently without any dissent from the Railway Board. The Railway Board admitted that the materials were urgently required and that procurement had been seriously delayed, but explained that this came to the notice of the Board only in May 1948. They also considered that the chasing and progressing organisation of the Controller of Railway Supplies had failed to keep the Board informed of the situation. We have read the papers made available to us in this connection, but find it difficult to accept the contention that the Board were unaware of the case till May 1948. If they were, this would point to some very serious defect in organisation.

Under the existing conditions each Railway has a Controller of Stores in charge of their Stores Organisation, who is assisted by one or more Deputies and Assistants, the number depending on the size of and the work on the railway. The Stores Branch of the railway is responsible not only for making direct purchases but also for the custody of the entire stocks of Railway Stores (except those which are delivered direct to the consuming Departments), and for the issue of stores as required to the various indentors. The following statement shows the cost of the Stores Organisation on the Indian Government Railways:—

TABLE 2.—*Cost of the Stores Organisation.*

(Includes BN, BB&CI, EI, GIP, MSM, OT and SI Railways.)

	Rs.
1938-39	42,32,334
1939-40	42,24,457
1940-41	43,32,696
1941-42	53,46,393
1942-43	60,65,796
1943-44	57,24,079
1944-45	61,80,420
1945-46	69,75,000
1946-47	82,58,273
1947-48 . (Budget.)	80,69,000

N. B.—These figures do not include Dearness Allowance and loss on Grainshops.

It will be seen from the statement that the cost, which was Rs. 42 lakhs in 1938-39, has increased to about Rs. 70 lakhs in 1945-46, and in 1946-47, it was over Rs. 82 lakhs. As against this increase of over 60 per cent. in 1945-46, the increase in the number of transactions was approximately 15 per cent. (excluding B. N. and G. I. P. Railways) the details being as given below :—

TABLE 3.—*Number of transactions*

Railways	Number of transactions			Increase or decrease in total %
	Receipts	Issues	Total	
B. N.	Not available.			
B.B. & C.I.	Not available.			
1938-39	45,710	5,06,127	5,51,837	
1945-46	50,743	3,89,570	4,40,313	-20.2
E.I.	Not available.			
1938-39	Not available.		6,22,300	
1945-46	Not available.		6,85,600	+10.2
G.I.P.	Not available.			
1938-39	Not available.		7,90,757	
1945-46	69,688	7,21,069	7,90,757	
M.S.M.	Not available.			
1938-39	28,353	2,66,701	2,95,054	
1945-46	60,110	4,35,541	4,95,651	+68.0
O.T.	Not available.			
1938-39	Not available.		78,820	
1945-46	Not available.		1,25,011	+58.6
S.I.	Not available.			
1938-39	16,693	1,11,775	1,28,468	
1945-46	25,250	1,56,966	1,82,216	+41.8

*Note.*—The figures do not include transactions in a few of the minor depots, the same not being available. The figures for the two years, however, are comparable.

We consider that there has been an unduly heavy increase in the cost of the Stores Organisation especially when we remember that these figures exclude dearness allowance and loss on grainshops. The increase in expenditure is almost entirely due to increases in the number of staff. The increase in depot staff alone is 67 per cent. and there are corresponding increases in the ancillary offices. As already indicated, the increase in transactions is approximately 15 per cent., and excluding the B. B. & C. I. where there is a reduction of 20 per cent., the increase in transactions on the other railways works out to 32 per cent., and this cannot justify the actual increase in the number of staff. We recommend that the Railway Board should require individual railways to lighten their Stores Organisation to make the increase in cost commensurate with the increase in work. We further recommend for the B. N., B. B. & C. I., E. I., G. I. P., M. S. M., O. T. and S. I. Railways, a target of Rs. 60 lakhs on the old pay scales, and Rs. 90 lakhs under the Central Pay Commission scales should be aimed at. The Budget figure of Rs. 1,50,46,000 for 1948-49 is indeed heavy, and we find no justification for such a large increase. It is, therefore, recommended that an immediate job analysis should be undertaken of the Stores Organisation on each of these railways as also on the E. P. and Assam Railways, if necessary, to ensure that the expenditure is reduced to a more reasonable level.

In view of anxiety caused both to the Controller of Stores of Railways and to the Industry and Supply Ministry by the difficult stores position, we recommend that joint meetings of the Controllers of Stores of the Railways and the Industry and Supply Ministry should be held quarterly at

which representatives of the Railway Board should be present. The various representatives should discuss in detail their mutual problems so that each other's points of view can be appreciated.

163. *Stores Procedure*.—We should like to point out that in our interim report we stressed the need for the simplification of the Stores Procedure on railways and for this purpose recommended the appointment of a small departmental committee consisting of one Stores Officer and one Accounts Officer. We have been informed by the Railway Board that the matter is under their consideration, but so far as we know our recommendation has not yet been implemented. We, therefore, again draw the attention of the Railway Board to our recommendation.

164. *Stores Balance*.—The statement in paragraph 159 gives the progress of the Stores balances from year to year. If a Controller of Stores feels that he cannot be sure of the supply of a particular item when it is required, he naturally has to stock more of that item. Every additional crore of rupees locked up in stores means an additional payment of about three lakhs of rupees as interest. It also means the provision of larger storage capacity with consequent increased capital expenditure on which also interest has to be paid. In addition, it also involves the maintenance of a larger depot staff for the issue and custody of the stores. It is, therefore, very important that every possible step should be taken to reduce the stores balances to the minimum consistent with safety.

We have quoted the figures of the closing balances in stores supplies for the years 1937-38 to 1945-46, which show steadily rising figures. In the above paragraph, we have commented upon the necessity for keeping these balances at a minimum. We have considered different alternative methods for prescribing the maximum which these stores balances should not exceed at any time. In view of the large fluctuations in prices, it is not possible to prescribe a monetary limit to the balances, that may be considered reasonable.

Keeping these difficulties in mind, we feel that perhaps the best method of fixing the maximum would be to work to a proportion of the year's requirements of such stores. Normally, it should be adequate if the Railways have in hand at any time not more than nine months' requirements, in the case of goods available in the Indian market, and not more than 18 months' requirements in the case of stores imported direct.

We have been advised that the Ministry of Railways fully appreciate the necessity for the reduction of Stores balances to a minimum consistent with safety and that they are convinced that all General Managers are fully alive to the need for a reduction of the stores balances prevailing on their railways. All railways are constantly being requested to review their stores stock positions and recoupment arrangements to ensure that stocks are not being accumulated beyond the limits necessitated by the present supply position in each case.

We do not feel inclined to accept the view that adequate steps are being taken by the Railways to ensure that the stores balances are kept at the minimum consistent with safety as during our inspection of stores godowns of certain railways we found that stocks of some items were so high that it would not be possible for those railways to consume them even in three years.

The recommendations made in paragraph 160 of this report in regard to the delegation of further powers to the railway administrations for the direct purchase of items, easily available in their respective areas will, in our opinion, lighten the load on the Ministry of Industry and Supply considerably, and should enable them to make purchases of other items more promptly.

## CHAPTER IX

### FINANCE

#### A. Financial Organisation

165. *General Remarks.*—The capital at charge of the Indian Railways is now in the neighbourhood of Rs. 700 crores. The gross traffic receipts expected in 1948-49 are Rs. 190 crores. The ratio of working expenses (excluding interest charges) to gross earnings is estimated at 83·3 per cent. The expected gross earnings have taken into account the result of the increased rates both for passenger traffic and for goods traffic introduced from the 1st January 1948. The net revenue has been estimated at Rs. 32·37 crores out of which Rs. 22·53 crores would be payable as interest charges. The Railway Board have informed us that the financial effect of the Adjudicator's Award would be to add about Rs. 15·5 crores per annum to the expenditure. If the earnings and expenses stand at the same level as in 1948-49 (Budget figures), the financial position of the Indian Railways cannot be considered satisfactory. The importance of reducing the working expenses and developing the earnings does not, therefore, need to be stressed. One important factor which affects the financial position of the Railways is the efficiency of the Financial advice which the Railway Board and individual Railway Administrations have at their disposal.

166. *Finance Organisation—Railway Board.*—The Finance Organisation of the Railway Board is under the control of the Financial Commissioner. At present, it consists of a Director of Finance, a Joint Director of Finance and two Deputy Directors of Finance. The post of Financial Commissioner was created in April 1923, as a result of the reorganisation of the Railway Board based on the recommendations of the Acworth Committee. The post of Director of Finance was created in 1925, in order to relieve the Financial Commissioner, like other Members of the Board, of all but important work and to enable him to tour extensively and to visit the headquarters of Railway Administrations and Local Governments.

The Financial Commissioner is the representative of the Government of India, Finance Department on the Railway Board. He exercises the full powers of the Government of India to sanction railway expenditure, subject to the general control of the Finance Minister. No proposal involving expenditure or affecting railway revenues can be adopted until it has been accepted by him or on his behalf, and, if, on any question, his views do not coincide with those of the Chief Commissioner or of the Transport Minister, he has the right to make a reference to the Finance Minister. The officers of the Finance Directorate (and the Accounts Directorate) are expected to assist him in carrying out these responsibilities.

Enormous additional expenditure has been caused by the high level of prices now prevailing in the country. The pay adjustments consequent on the recommendations of the Central Pay Commission are expected to involve additional expenditure which has been estimated by the Railway Board at Rs. 25 crores per annum. The decisions on the Adjudicator's Award are expected to result in extra expenditure which has been estimated by the Railway Board at Rs. 15·5 crores. On the other hand, there is very little chance of the earnings again reaching, for some time the high levels attained during the war. A very vigilant watch over, and an intelligent appreciation of the earnings and expenditure of the Railways are, therefore, essential. The duties and responsibilities of the Financial Commissioner and the officers under him are thus very onerous and demand efficiency of a high order.

A study of the details of the normal working expenses of the Indian Railways would show that, except when a special exhaustive review is undertaken, there is very little scope for any important alteration in the nature or quantum of the working expenses. On the other hand, there is scope for large variations in earnings from year to year and even from

month to month. Funds for meeting the increasing demands on various accounts have necessarily to be found from the earnings of the Railways. The Commercial side of railway working has its own responsibilities in this matter. But the part to be played by the Financial Organisation is also an important one. The Financial Commissioner, whom we examined on this point, stated that he did not have a separate organisation under him to consider the possibilities of increasing the earnings and that he had enough officers to be able to tackle this problem without any special addition to his branch. We, however, attach very great importance to this aspect and consider it desirable that in the Finance Branch, there should be a separate unit, whose primary duty would be to explore, constantly, means for improving the earnings in close collaboration with the statistics and commercial branches. If necessary, it may be advisable to give some Financial Officers practical experience in the Commercial working of the railways. The recent decision to establish a Rates Tribunal would not affect the position regarding the responsibility of the Finance Branch as the general level of goods rates and all passenger fares would still be decided by the Ministry of Railways, with reference to the general budgetary position.

In the course of our enquiries, we came across a few cases involving financial commitments, which were dealt with by the Finance Branch of the Railway Board. We came across one case in which a proposal to purchase a narrow-gauge railway was dealt with in that branch, a few months ago. The proposal was not a new one. It had been previously put forward in 1944, when after a thorough examination by the Finance Branch, it was definitely decided that the line should not be purchased for another 25 years, as it would be a liability even if it were got free of cost. That decision was based on the financial results of working during the triennium ending with 1942-43. In 1947, however, the same proposal came up again before the Finance Branch and it was decided to purchase that Railway and rehabilitate it at a total cost of about 12 lakhs of rupees. This decision was based on the working results of the triennium ending with 1945-46. The Finance Branch could not have been unaware of the fact that the triennium chosen by the, viz., 1943-44, 1944-45 and 1945-46, for examining the financial results was so abnormal that it would be dangerous to draw any conclusions therefrom. In fact, during that triennium, the Railways in India, as a whole, worked to surpluses of Rs. 50.84 crores, Rs. 49 crores and Rs. 38.20 crores, respectively. It is obvious that no financial commitments should have been decided upon on the basis of the results of the triennium ending 1945-46, particularly as the working expenses would be considerably enhanced by the introduction of revised scales of pay and by the Adjudicator's Award.

We have come across a few cases in which, when proposals requiring consideration of the Standing Finance Committee (S.F.C.) were placed before that Committee, the estimates of expenditure reported to them were very low. For example, the doubling of the line between Kanpur and Ekdil (near Etawah) was estimated to cost rupees one crore, while the latest revised estimate increased to Rs. 1.43 crores. Then again, the construction of the section between Barwadih and Sarnadih (40 miles) of the Bijuri project was estimated at Rs. 1.71 crores as against the revised estimate of Rs. 3.25 crores. In both these cases we are satisfied that the original estimates presented to the S.F.C. were not made out with the care they deserved.

We are told that the Railway Board instructed railways to prepare estimates for post-war schemes at rates 75 per cent. higher than the pre-war rates. This instruction so far as we are aware has not been revised. In some cases, estimates are still being prepared on this basis with the result that they are considerably lower than they could be if the current market rates had been adopted.

Once the Standing Finance Committee accepted a proposal for expenditure and the work was started, it would be difficult later to reverse the decision to carry out the work, even though it should be known that the cost would be considerably more than what it was estimated to be. We



urge that great care should be exercised in the matter of arriving at the estimated cost of a scheme on the basis of which sanction to the scheme is accorded

It is not our object to criticise the action taken in individual cases, but the financial interests of the Indian Railways in general cannot be adequately protected unless the financial work of the Railway Board is more efficient than is indicated by the cases referred to in the previous paragraphs.

167. *Finance Organisation—Railways.*—The General Manager of each Railway has, in his Chief Accounts Officer, a Finance Adviser who, in addition to maintaining the accounts of the Railway, is expected to render expert financial advice on all matters affecting the finances of the Railway. The Financial Adviser and Chief Accounts Officer (F.A. & C.A.O.), as he is designated now, has evolved out of officers who were known as Chief Auditors of Railways and who had combined in themselves the functions relating to Finance, Accounts and Audit. The separation of Audit and Accounts functions was completed in 1929 and the Accounts Officer became the recognised Financial Adviser. But it was not until 1940 that proper emphasis was laid on the F.A. & C.A.O.'s functions as the Financial Adviser to the General Manager. The administrative control over the F.A. & C.A.O. and his staff, that remained under the Financial Commissioner of Railways, passed into the hands of the General Manager in 1940, when to preserve a certain degree of independence so far as financial matters were concerned, it was provided that, in the event of a difference of opinion on a financial matter between the General Manager and the Financial Adviser, the latter could ask the former to refer the case to the Railway Board for their decision.

Although in the Railway Board all financial proposals must necessarily go to the Financial Commissioner or his subordinate officers, there is no such provision in respect of reference to the F.A. & C.A.O. of financial matters within the power of sanction of the General Manager. This allows the General Manager latitude to ignore his Financial Adviser should he so choose, but our enquiries have shown that on the whole the Financial Advisers themselves have no reasons to complain that they are ignored by the General Managers in this way. We did notice, however, that some of the Financial Advisers and Chief Accounts Officers felt that they were not kept aware of the initiation or the progress of important proposals affecting the finances of the Railway until at a very late stage. We have no reason to believe that this was done deliberately by any of the railway administrations. However, it is essential that the Financial Adviser should be closely associated with every proposal affecting the finances of the Railway from as early a stage as possible. If this is not done, the Financial Adviser will naturally be placed at a disadvantage and may not be able to give effective financial advice in time.

In paragraph 166, emphasis has been laid on the need for financial advice relating to the development of earnings of the Railways. Certain F.A. & C.A.Os., when we interviewed, told us that it was not part of their duties to deal with subjects relating to earnings. For the same reason for which we consider that a suitable organisation should be formed on the Railway Board to deal with the earning side of railway working, the Financial Advisers of the individual railways should also be entrusted with the duty of advising on development of earnings and should be provided with the necessary staff and other facilities for the purpose.

In all the railways which we visited, we found evidence of close co-operation between the Financial Adviser and the General Manager. No General Manager had any complaints about the manner in which his Financial Adviser functioned. But the Financial Commissioner, who is perhaps in a better position to judge of the quality of the financial advice tendered by the F.A. & C.A.Os., was not entirely satisfied with the value of their advice. He thought that the F.A. & C.A.Os., whose primary duties hitherto had been accounts scrutiny, were not able to fully appreciate the import of financial scrutiny: a few of them did not even possess the necessary aptitude or background. The Financial Commissioner, therefore, considered



it necessary to educate the F.A. & C.A.Os through more frequent tours or otherwise. We agree with these views, and consider that if the Financial Commissioner could not attend to his duty to ensure the efficiency of the F.A. & C.A.Os, unless he is relieved of some of his work, it is essential that immediate steps should be taken to remedy this state of affairs and to give the necessary relief to the Financial Commissioner. We also consider that it would be advisable to have periodical conferences of Financial Advisers, convened by the Financial Commissioner, at which their problems and difficulties could be discussed freely and there could be a general exchange of ideas.

The Hon'ble Minister for Transport, in his speech introducing the Railway Budget for 1947-48 stated that the Railway Board was taking effective and practical measures to place at the disposal of the General Managers improved machinery for financial advice and control, and that a Finance Branch would be brought into existence on each Railway which would not be concerned with routine accounts checks and which would be amalgamated with the Budget Branch of the General Manager's office. In the course of our discussions with the Financial Commissioner, we were told that the intention was not as expressed by the Hon'ble Minister, but that the Finance Branch should form part of the office of the F.A. & C.A.O. and that the Budget Branch of the General Manager's office should be amalgamated with the Finance Branch. With this object in view, an experimental scheme is reported to have been started in November 1947 on the B. B. & C. I. Railway, under which an Accounts Officer of junior administrative rank has been designated as Deputy Financial Adviser who would work under the F.A. & C.A.O. and control the work relating to financial advice as distinct from accounts. All financial advice work would be canalised through the Deputy Financial Adviser instead of being spread over all the sections in the Accounts Office.

The sanctioned annual extra expenditure on the scheme on the B. B. & C. I. Railway is estimated at Rs. 48,000. The Financial Commissioner told us that certain Railways other than the B. B. & C. I. Railway have also started working on the lines of the scheme, but that there were a few on which no re-organisation had begun. He also mentioned that at least on one of the railways, on which re-organisation had not begun, the Financial Adviser and Chief Accounts Officer himself and his deputy did a lot of financial advice work, and very sound work too. We have been given to understand that the F.A. & C.A.O. on the B. B. & C. I. Railway has, in the past, been in a position to give sound financial advice without extra gazetted or non-gazetted staff. We, therefore, consider that unless it is seen that substantial advantages are achieved by the new arrangement, the necessity for introducing it as a permanent measure on all the railways should be re-considered.

Under the present set-up, the General Manager is not bound to accept the advice rendered by his Financial Adviser. He is at liberty to over-rule the Financial Adviser, subject only to the condition that the latter can endorse a reference to the Railway Board accompanied by a verbatim copy of his comments. It is only in exceptional circumstances that this contingency of a reference having to be made to the Railway Board would arise at all. Harmonious relations between the General Manager and the F.A. & C.A.O. would to a large extent depend on the personalities concerned. In any case, the present position is that the General Manager has the power to override his Financial Adviser if he considers it necessary. The Financial Commissioner informed us that under the re-organisation, it was proposed to lay down that the approval of the Financial Adviser should be obtained before a scheme affecting the finances of the Railway can be given effect to. We are aware that this would tighten financial control to a very considerable extent, but we feel that it would be unwise to lessen the responsibilities of the General Manager for the efficient working of the Railway entrusted to him. We would, therefore, recommend that the change proposed in the relation between the General Manager and the Financial Adviser should not be given effect to.

The impression we have formed of the manner in which the Financial Adviser has been functioning so far on the individual Railways is that it

has not been possible for him to produce any spectacular results. There seems to be very little initiative on the part of the Financial Adviser in the matter of advising on reduction of expenditure or increase of earnings. The function of the Financial Adviser seems so long to have been limited to an examination of individual proposals originating from various departments. No attempt would appear to have been made to have any collective review of the financial position of each Railway. It is true that various kinds of statistics and accounts are being compiled from month to month and from year to year. But there is no evidence to show that these have been put to much useful purpose. We would suggest that a collective financial survey should be prepared annually by the Financial Adviser and Chief Accounts Officer in which he should comment on all aspects affecting the financial soundness of the railway. This review would form a guide to the railway administration in regulating expenditure in later years. It should be left to the General Manager and the Financial Adviser to decide what information should be given in the Financial Adviser's annual review and in what form that information should be given. But, it would be useful to attempt in the review a collective appreciation of the expenditure involved in sanctions relating to the several Heads issued in the last few years, to curb any tendency to extravagance. General remarks may be made about the extent to which the expectations at the time of sanctioning expenditure have actually been, or are, likely to be realised. An analysis of the important statistics of a few years can be made in the review, and general tendencies commented on. Every important factor affecting the finances of the Railway can usefully find a place in the review.

Expenditure of a capital nature incurred on new assets or improvement of existing assets have, subject to certain exceptions, to be financially justified. Much of the information on the basis of which the financial justifications are worked out by the departmental authorities and examined by the Financial Adviser are based on estimates, both of expenditure and of earnings. The estimates of capital expenditure are very often found to have been exceeded considerably when the works accounts are closed. These variations from the original estimates vitiate the value of any advice which the Financial Adviser may have already given. Very little attempt has been made so far to exercise a back check of expectation with actual results. All these have detracted from the utility of financial advice. While it may not be possible to exercise check over all the estimated figures, it is possible and essential to effect a comparison of actual expenditure on a capital work with the estimate on the basis of which financial justification was given with a view to seeing whether that financial justification would hold good. Whether the justification can hold good or not, all cases of large excesses over estimates must receive close scrutiny and if the excesses have been due to inefficiency, suitable action should be taken to avoid the recurrence of such inefficiency.

The rules regarding financial justification should be made more elastic than they are at present. The Railway Board may issue instructions about the manner in which proposals requiring their sanction should be financially justified. Much of the information on the basis of which the financial of the General Manager, it should be left to the General Manager and the Financial Adviser to judge of the financial justifications in whatever manner they consider suitable. The instructions of the Railway Board in regard to expenditure to which their sanction is necessary would provide the general principles which might govern all financial justifications.

### B. Costing

169. A commercial organisation of the nature of the Indian Railways cannot function economically unless it has a proper system of costing. It should be in a position to know with a fair amount of accuracy what each of the operations costs. Whether full costing of all the activities of the Railway Department is done or not, it is essential that a scientific costing system should be introduced without any delay in the railway workshops. The present system gives only an idea of the total expenditure incurred in the shops although in certain workshops an attempt is made to work out the unit cost of repairs, units being determined by certain rules framed

by the Railway Board. The method adopted at present does not indicate what the repairs to individual engines actually cost nor do they show whether the cost of the articles produced in the workshops compares with the cost of purchases from outside agencies.

The Indian Government Railways have at present 4,469 broad gauge engines and 1,706 metre gauge engines. These engines fall under 256 classes. Owing to structural differences in these classes, certain types cost more to maintain than others. The Railways have no means of knowing whether one type of engine is more or less costly to maintain than another type. It is also not known whether a particular engine is so worn out that it is cheaper to scrap it and to replace it by a new engine than to continue to use it after repairing it.

The Railway workshops undertake the manufacture of spare parts to be used in repairing locomotives. Some at least of these spare parts can be purchased from outside agencies. On an approximate estimate spare parts costing Rs. 4.19 crores (1945-46) in the aggregate are being manufactured by the railway workshops. The system of accounting at present in force does not show how the cost of the articles produced in the workshops compares with the cost of purchasing it from outside; nor is there any satisfactory arrangement for comparing the cost of the same kind of material between one shop and another, or between one period and another.

The importance of costing in the railway workshops was stressed by Sir Arthur Dickinson in his report of 1926-27, by the Raven Committee and by the Wedgwood Committee. Certain Works Managers whom we the staff they have are not adequate for the purpose. The Financial Commissioner also stated that costing had not been introduced in the workshops as the facilities available there were not adequate for the purpose. It is surprising that the financial organisation of a commercial organisation of the magnitude of the Indian Railways should have neglected the costing side of Railway Accounting. Financial control over the enormous expenditure involved demands that each and every activity of the railway workshop should be costed scientifically. We would suggest that immediate steps should be taken towards this end. This will necessarily involve major changes in the organisation of the workshops and the appointment of extra staff. It is not possible for us to go into this question in detail. We would suggest that properly qualified officers should be entrusted with the least possible delay with the duty of working out and giving effect to a comprehensive scheme for the introduction of full costing in the workshops.

### C. Budget

169. *Budget*.—The first Railway Budget which was presented separately from the General Budget to the Indian Legislature was in respect of the year 1925-26. Initially the revenue expenditure of the railways was divided as follows:—

Demand No. 1—Railway Board.

Demand No. 2—Inspection.

Demand No. 3—Audit.

Demand No. 4—Working Expenses—Administration.

Demand No. 5—Working Expenses—Operation and Maintenance.

Demand No. 6—Companies and Indian States' share of surplus profits and net earnings.

Demand No. 9—Appropriation to Depreciation Fund.

Demand No. 11—Miscellaneous.

Demand No. 12—Appropriation to Reserve Fund.

Demands No. 4 and 5 covered the working expenses the accounts of which were maintained by Abstracts which corresponded to Departments. The arrangement of Demands was criticised by the Director of Railway Audit as there were only two demands for working expenses which made it difficult to exercise effective control over expenditure. The forms of grants and Appropriation Accounts did not follow the structure of the

original accounts and for effective control over expenditure the accounts had to be recast in the forms of grants. Effective control could not also be exercised over the working expenses which were all clubbed together under two demands only. Under this arrangement, the Railway Board had the power of re-appropriation between the various abstracts in respect of General Administration and also in respect of other expenditure. Under certain executive orders, however, the powers of General Managers to make such re-appropriation were curtailed with effect from 1932-33.

From 1934-35, the working expenses were re-arranged into separate demands corresponding to revenue abstracts. While, under the older arrangements, the General Managers could, subject to certain restrictions re-appropriate between abstracts, this power ceased to exist when there was a separate demand for each abstract. It was then represented that the splitting up of demands according to abstracts placed great restrictions on the General Managers' powers of re-appropriation. To get round this difficulty, a convention was introduced to the effect that an excess under one of these demands could be set off against a saving in another. This in effect reduced the number of grants to one only for the entire working expenses of each railway. Although the Railway Board have no powers of re-appropriation between abstracts they could re-appropriate between railways.

The Public Accounts Committee which considered the report of the Director of Railway Audit on the accounts of 1943-44 deprecated the subterfuge by which the constitutional difficulty in the matter of re-appropriation from one grant to another was got over by a convention under which an excess under one demand could be set off against a saving under another. They held that it would be more honest if these headings were grouped into one grant.

The Financial Commissioner reviewed the whole position in June 1946 and decided to re-arrange the grant so as to secure a reasonable balance between the needs of administrative flexibility on the one hand and efficient financial control on the other. He laid down the principle that instead of having one demand for each abstract comprising different categories or groups of expenditure, there should be a separate demand for each well defined group. He accordingly, with the approval of the Standing Finance Committee and Public Accounts Committee, divided the ordinary working expenses as follows:—

1. Administration.
2. Repairs and Maintenance.
3. Operating Staff.
4. Operation—Fuel.
5. Operation—other than Staff and Fuel.
6. Miscellaneous.

Individual railways formed the sub-heads under each demand. The detailed heads under each sub-head were to be well-defined portions of the Revenue abstracts so that expenditure under each detailed head could be got straightaway from accounts without the necessity of a fresh compilation.

These arrangements have been given effect to from the year 1947-48. They have the effect of showing separately expenditure which would not vary with the volume of traffic, from that which would vary with the extent of traffic. As the expenditure under each detailed head would be available direct from the abstracts, monthly control statements and appropriation accounts could be compiled without much difficulty.

The scheme introduced in 1947-48 meets the criticism of the Public Accounts Committee. It is more rational than the older arrangements. It is, however, too early to say how far it would conduce to more effective control over expenditure.

The practice in all the railways in regard to the authority responsible for preparing the annual budget is not uniform. On certain railways the F.A. & C.A.Os. have been more closely associated with the Budget than on others. The F.A. & C.A.Os. of certain railways do not take much

personal interest in the preparation of the railway budget in spite of the fact that their own staff work on the budget. The Financial Commissioner has held rightly that one of the reasons why the attempt to control revenue expenditure through the Budget has not been successful was that the F.A. & C.A.Os. "had very little hand in the formulation of the budget estimates". In the scheme of re-organisation referred to earlier in this paragraph we understand that the Financial Commissioner has provided that the budget branch of each railway would go under the Financial Adviser. Even then much of the information on which the budget compilation can be made will still have to be given by the various departments of the railways. While, therefore, the compilation of budget should normally be a duty of the Financial Adviser, they by itself cannot automatically result in better control over expenditure. The result of the change will have to be watched for a sufficiently long period before it can be definitely stated whether it has produced satisfactory results in the matter of controlling railway expenditure.

In his speech introducing the Railway Budget for 1947-48, the Hon'ble Transport Minister stated as follows:—

"The Railway Board have also under examination the development of a technique of control over expenditure better suited to the needs of a commercial department like the Railways than that now in force, which was worked out primarily for ordinary non-commercial spending departments of Government."

In dealing with this matter in a note dated 7th October 1946 the Financial Commissioner stated that the system of controlling expenditure through the budget had failed because that system had been evolved primarily for the ordinary spending departments of Government and was altogether unsuited to a commercial business, like the railways. No General Manager should refuse to sanction essential unavoidable expenditure merely because there was no budget provision. The Railway Board's instructions to General Managers permit them to incur expenditure in certain circumstances irrespective of funds being available or not in the budget. The Financial Commissioner held that for an effective control over railway expenditure, a *correlation of expenditure to "performance"* is necessary. He considered that it was necessary to introduce a machinery on each railway for a comparison of the statistics of different periods and in the Railway Board's office for a comparison of the statistics of different railways in addition. He hoped that this would keep the railway expenditure down if its "performance" revealed a marked downward tendency.

We note, however, that the machinery for giving effect to these ideas has not yet been introduced. We suggest that prompt attention should be given to this matter with a view to checking wasteful expenditure and introducing effective managerial control in place of the existing budgetary control. In the Hon'ble Minister's Budget Speech, referred to above, he referred to the re-organisation in the Board's office which was an essential preliminary to the re-organisation on the Railways under which improved machinery for financial advice and control could be placed at the disposal of General Managers. This re-organisation involved three changes, one of which was the transfer of budget work in the Railway Board's office which had been entrusted to the Director of Finance up to 1st December 1946, to the Director of Accounts. The reason for placing the Railway Budget under the Director of Accounts was that "the improved financial control of railway expenditure in the Board's office which envisages correlation between expenditure and performance is impossible unless accounts, budget and statistics are placed under the same Director and the staff employed there work side by side". When we examined the Financial Commissioner, he stated that the Director of Accounts had with him necessary accounts and statistical figures which would facilitate the preparation of the budget. We consider, however, that there is a closer connection between Finance and Budget than between Accounts and Budget. We are not aware of any other institution in which the preparation of budget has been entrusted to a person other than the Finance officer when one is available. We understand that, although the Auditor General was originally opposed to this change he withdrew his

objection on the ground that very close liaison between the Finance and Accounts Directorates could be secured and that this liaison would be maintained by discussion and not by noting. We fail to see why all this cumbersome arrangement is necessary at all. The Financial Commissioner holds the view that, as the estimates under each Demand would require his specific approval and, as a whole that of the Chief Commissioner, it did not matter which of the Directors under him was made responsible for the preparation of the Budget. We do not agree with this argument and recommend that the budget work should be retransferred to the Director of Finance. If this change unduly increases his work, he should be given whatever assistance he may need.

We have mentioned above the Financial Commissioner's idea of correlating expenditure with performance. This correlation can obviously be only with expenditure which varies with the extent of performance. The ultimate object is control of expenditure. A retired railway official who had held very important positions in the Railway Department suggested to us that the same object could be attained in a slightly different way. His suggestion was to divide all expenditure into two categories, controllable and non-controllable. Controllable expenditure would be the expenditure which would be proportionate to easily measurable units, like the unit of track maintenance. The volume of expenditure incurred by a particular official which could be passed as reasonable would depend on the number of units for which he was responsible. We understand that an experiment on these lines was made on certain railway, but was ultimately given up. The Financial Commissioner with whom we discussed this point, and who admitted that the system was worked out on one railway in regard to track maintenance, mentioned that there was some manipulation in working out the units. When questioned whether the system would work well if the units were correctly worked out, he could not give us any definite answer as the Railway Board had no information on the point. We suggest that, the matter should be further considered with a view to this system being tried again as an experimental measure.

#### D. The Separation Convention

170. *The Separation Convention.*—The Acworth Committee of 1920-21 recommended in para. 58 of their report the complete separation of the railway budget from the general budget. In September 1924, the Indian Legislative Assembly passed a resolution recommending the separation of the railway finance from the general finances "in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues, on the money expended by the State on Railways." The resolution provided that general revenues should receive a definite annual contribution from the railways which was to be the first charge on the net receipts of the railways. The contribution was to be calculated at 1 per cent. of the capital at charge at the end of the penultimate financial year plus  $\frac{1}{5}$  of any surplus profit remaining after payment of this fixed return. The interest on the capital at charge of, and the loss in working strategic lines was to be borne by general revenues and was to be deducted from the contribution payable by railways. Any surplus remaining after this payment to the general revenues was to be transferred to a railway reserve, provided that if the amount available for transfer to the railway reserve exceeded in any year three crores of rupees, only two-thirds of the excess over three crores would be transferred to the railway reserve and the remaining one-third would accrue to general revenues. If in any year railway revenues were insufficient to provide the percentage of 1 per cent. of capital at charge, the surplus profits in the next or subsequent years could not be deemed to have accrued for purposes of division, until such deficiency had been made good.

Contributions to the general revenues were calculated from 1924-25 to 1941-42 under the convention set up as a result of the resolution passed by the Legislative Assembly in September 1924. After the year 1931-32, however, the amount of the contribution could not be paid on account of the

railway earnings being inadequate to meet the expenditure. The inadequacy of railway earnings to cover fully the amounts payable to the general revenues under the convention continued up to the year 1939-40. In 1940-41, the earnings were large enough to cover the payment due for that year and to clear off arrear payments to the extent of Rs. 7.53 crores. In 1941-42, a further clearance of arrears to the extent of Rs. 15.37 crores was made.

On the 2nd March 1943, the Legislative Assembly passed a resolution amending the convention referred to in the previous paragraphs. The amendment was found necessary as the convention, which was adopted under the Assembly Resolution, dated the 20th September 1924, and which was intended to relieve the General Budget of the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to the general revenues on the money expended by the State, had not achieved this object. For the year 1942-43, the Assembly authorised a payment of 2.35 crores of rupees over and above the current and arrear contributions for that year. For 1943-44, the surplus was divided between the general revenues and the railway reserve in the ratio of 3:1, the loss on strategic lines being recovered from general revenues. For subsequent years *ad hoc* contributions were to be determined upon, until a new convention was adopted by the Assembly. It has not been possible to adopt a new convention so far.

The following statement shows the amounts paid to general revenues from 1924-25 onwards:

TABLE I  
*Statement showing contribution to general revenues*  
(In lakhs of rupees)

Year	Paid to general re- venues.	Unpaid	Repayment
1924-25	6.78	..	..
1925-26	5.49	..	..
1926-27	6.01	..	..
1927-28	6.28	..	..
1928-29	5.23	..	..
1929-30	6.12	..	..
1930-31	5.74	..	..
1931-32	..	5.36	..
1932-33	..	5.23	..
1933-34	..	5.21	..
1934-35	..	5.04	..
1935-36	..	4.99	..
1936-37	..	4.91	..
1937-38	2.76	1.58	..
1938-39	1.37	3.09	..
1939-40	4.33	30	..
1940-41	4.62	..	7.53
1941-42	4.80	..	*15.37
1942-43	7.49	..	12.63
1943-44	37.64	..	*Rs. 18 lakhs adjusted
1944-45	32.00	..	against rectification
1945-46	32.00	..	of excess payments
1946-47	5.40	..	made in previous
1947-48	7.50	..	years.
1948-49	4.50	..	..
	186.06	35.71	35.53
Total payments	221.59		

It will be seen from the statement above, that the total payment to general revenues for the 25 years commencing from 1924-25 and ending with 1948-49 would be Rs. 221.59 crores.

It was held that the necessity of making a definite return to general revenues on the money expended by the State would enable the railways



to carry on a continuous policy. The economic depression in the middle thirties and the recent World War have effectively prevented even the formulation of a general policy for adoption by the railways. The post-war problems and the increase in cost of staff have compelled the railways to resort to very short term, or *ad hoc* decisions, so as to be able to balance the budget. The result is that the railway reserve which at the end of 1945-46 stood at Rs. 38·13 crores dwindled to Rs. 3·9 crores at the end of 1947-48, as large amounts out of the reserve had to be utilised for meeting railway deficits. One cannot foresee that conditions would become normal in the near future to enable railways to adopt general policies.

The Railways form a commercial concern, although managed by Government. Government have to adopt general policies in regard to such matters as the development of the country, conservation of natural resources, labour legislation, etc., and the railways have no option in the matter of falling in line with them. The Railways have to pay customs duties for imported articles in the same way as other agencies. Nevertheless, we consider that, in addition to the interest on capital, a contribution must be made by Railways to the general revenues.

The Railways are a national asset. Just as a share-holder in a company expects a larger dividend in more prosperous years, the tax-payer expects contributions in surplus years from the railways to the general finances. Government cannot afford to be indifferent to the financial position of the railways and their financial results from year to year. The financial control of railway working should, therefore, be under the control of the Government of India, Finance Department. That department should have an effective means of judging whether the railways are being run economically and efficiently. The present position of the Financial Commissioner on the Railway Board is consistent with this principle. The interests of the taxpayer are also, to some extent, protected by the fact that the Auditor-General conducts an independent audit of the railways' transactions. Neither financial control nor statutory audit has been effective in the past. But this by no means decreases their importance in the scheme of railway working.

The contribution to the General Revenues was fixed in 1924 at a time when the position of the railway finances was satisfactory and the railway earnings could without much difficulty make these contributions year after year. The position changed very greatly with the onset of the economic depression and for years together it was not possible to make these contributions, although the arrears were cleared during the more prosperous years from 1940-41 to 1942-43. We are aware that a good deal of attention has been paid by Government already to revise the convention regulating the contribution to the General Revenues. We feel that owing to the uncertain factors involved in the present situation, it is not possible to make any recommendation in respect of a revision of the Convention which might not be rendered impracticable by future events. The present method of applying *ad hoc* contribution to be determined each year should, therefore, continue till the future position of the railways can be estimated with greater definiteness.

We would, however, remark that the closing balance at the end of the year 1948-49, in the Railway Reserve Fund, is expected to stand at Rs. 8·5 crores only and that in the Railway Betterment Fund at Rs. 8·20 crores. It is important, therefore, that any decision arrived at in regard to the sharing of surpluses between the General Revenues and the Railway Reserve should take into account the present depleted condition of the Railway Reserve Fund and the Betterment Fund.

### E. Capital at Charge

171. The Capital invested in the Railways has been provided by loans raised specifically for railway purposes (specific debt), by the utilisation of revenue surpluses and other resources at the disposal of the Government of India (non-specific debt) and by loans raised through the medium of Railway Companies, Indian States, etc., etc. Whenever capital expenditure was incurred in sterling it was always converted into rupees at the rate



of exchange in force, and it has all along been possible to exhibit the capital outlay in the accounts of Government Railways in rupees.

With the separation of Railway Finance from General Finance in April 1924, the railway capital account was permanently debited with the balance of the capital liability involved in the construction or purchase of railways, whether under redemption by Annuities and Sinking Funds or not.

The graph attached (Appendix XXVIII) shows the progress of the Capital at Charge from 1924-25 to 1946-47 (and the estimate for 1948-49).

During the 22 years ending with 1946-47, the Capital at Charge increased from Rs. 607·69 crores to Rs. 807·76 crores. It increased further to a little less than Rs. 840 crores just prior to the partition. On partition it diminished to approximately Rs. 660 crores. Since then, however, the Capital at Charge has increased and is expected to stand at Rs. 702·44 crores on 31st March 1949, *i.e.*, an increase of about 42½ crores since the partition.

The Capital at Charge includes a sum of approximately Rs. 20 crores owing to the debiting to capital from 1924-25 to 1935-36, of the difference between renewal cost and the original cost of the replaced assets. During the war years and thereafter, the debits to capital included a very large inflationary element. The Capital also includes Rs. 51·86 crores which does not, therefore, correctly represent the actual capital assets, but it has a considerable importance as it fixes the interest charges, and until 31st March 1943 determined the contribution to the General Revenues. It also regulated the contribution from current earnings to the Depreciation Fund.

An attempt has been made to calculate the capital expenditure which will be incurred in the next few years on works and schemes already sanctioned. The following statement gives, by railways, an idea of the estimated capital costs of such schemes and works:—

TABLE 2

(In thousands of rupees)

S. No.	Particulars of Railways	Anticipated cost	Expected expenditure up to end of 1948-49	Balance to complete the work
1.	Assam . . . . .	2,90,44	77,54	2,12,90
2.	Bengal Nagpur . . . . .	1,03,47	53,82	49,65
3.	B. B. & C. I. . . . .	1,75,72	57,09	1,18,63
4.	E. I. . . . .	9,13,33	5,76,05	3,37,28
5.	K. P. . . . .	35,38	21,84	13,54
6.	G. I. P. . . . .	3,56,36	2,17,59	1,38,77
7.	M. S. M. . . . .	77,77	29,54	48,23
8.	O. T. . . . .	44,08	20,22	23,80
9.	S. I. . . . .	1,42,22	46,09	96,13
10.	India Assam Link . . . . .	9,29,44	2,50,00	6,79,44
11.	Mihijam Project . . . . .	14,06,00	2,82,00	11,24,00
12.	Bridge on the Ganges at Mokameh . . . . .	13,00,00	18,56	12,81,44
Total .		57,74,21	16,50,34	41,23,87

The increase in capital on account of these works which have been either completed, or sanctioned but not completed, would, therefore, approximate Rs. 41, 1/4 crores.

We have also to consider in this connection the postwar railway programme made by the Central Board of Transport in January 1948, when a list of projects of high priority was drawn up. This did not include proposals which have been made by the Provincial Governments for the

restoration of the lines dismantled during the last war. The programme of construction based on the list, referred to above, is reproduced below :—

TABLE 3  
*Tentative programme of construction over the next 5 year period*

Name of Project	Length in miles	Programme of construction				
		1948-49	1949-50	1950-51	1951-52	1952-53
India Assam connection (70 conversion, 66 new line—already in hand).	156	95	61	..	..	..
Barwadih-Chirimirih (already in hand).	151	‡60	60	23	..	..
*Barwadih-Manikpur.	250	..	60	70	70	50
*Umaria Branch . . . . .	7	7	..	..	..	..
*Champa Branch . . . . .	26	26	..	..	..	..
*Gourdhunga Branch. . . . .	12	12	..	..	..	..
*Barwadih-Talcher . . . . .	272	..	62	70	70	70
*Kurla-Karjat . . . . .	35	..	..	35	..	..
†Argada Br. Extension . . . . .	25	25	..	..	..	..
Kantabanji-Sambalpur . . . . .	110	..	..	40	70	..
Jogbani-kosi Dam . . . . .	35	..	35	..	..	..
Lalkua-Rampur . . . . .	38	38	..	..	..	..
Total . . . . .	1,117	263	278	238	210	120

\*Being surveyed.

†To be surveyed.

‡8 miles in 1947.

It is difficult to estimate the probable expenditure on these constructions, but we know that most of these projects pass through difficult country and if the estimate made for the construction of the section Barwadih-Sarnadih (40 miles) is to be taken as a guide the additional capital required for these constructions would amount to approximately Rs. 85 crores. Taking into account the increase of about Rs. 42½ crores since partition, the capital at charge is thus likely to stand at about Rs. 828 crores by the end of 1952-53. This will have to be added to the estimated cost of the various electrification schemes which would be about 57 crores of rupees. The total Capital at Charge is, therefore, likely to be about Rs. 885 crores in a few years. We are almost certain that the financial cost of the new schemes would exceed the figures estimated and if to this is added the further heavy housing programme and the additional capital outlay involved in the restoration of certain dismantled lines, the cost of which has not yet been determined, the increase in capital outlay within the next few years on Indian Railways would be colossal.

We are very seriously concerned with the likelihood of a large increase in the capital outlay in the near future and would, therefore, very strongly suggest that no outlay should be incurred on other than financial considerations unless the other factors, which might justify a capital expenditure, are so important that it would be unwise to ignore them. It is not possible for this Committee to go into the relative merits of each of the schemes and proposals, but we feel that at least some of these schemes if examined carefully would not be financially or otherwise justified. To take an example the construction of 35 miles of Broad Gauge Railway line between Kurla and Karjat has been approved by the Central Board of Transport and presumably also by the Railway Board. The survey, which is expected to cost about Rs. 5 lakhs is nearing completion. The project included the construction of a bridge over the Thana Creek of about 1½ miles costing about Rs. 6 crores. The project is admitted to be not financially remunerative, but the justification has been given that it is intimately tied up with the proposed new Bombay Dock Yard scheme, which itself is in a nebulous state. We would further state that no dismantled line should be replaced unless the financial return thereon to the railways would justify beyond any doubt the additional capital liability. This is all the more necessary as some of

the areas served by those lines are also served by roads, and the resulting competition from road traffic might prejudice the railway earnings. We have stated earlier that the capital at charge on Indian Railways includes Rs. 51·86 crores which does not represent any tangible assets. This balance includes premia paid on the purchase of railway lines, difference in exchange and other additional liabilities in financing the purchase of lines, losses by exchange on capital after the purchase, expenditure on certain railway collieries and other assets not in use, and interest and loss in working during construction. This figure relates to the combined railways of India and Pakistan, of which a sum of Rs. 3·87 crores refers to the portions of railways now in Pakistan. The balance of about Rs. 48 crores represents the intangible assets of the Indian Railways. They cannot earn anything, but will cost the railways heavy interest charges. The capital includes in addition to this, a sum of approximately Rs. 20 crores due to debits to capital of the difference between the renewal cost and the original cost of the replaced assets up to 1935-36. The total intangible assets, therefore, aggregate approximately Rs. 68 crores

The Wedgwood Committee stressed the need for the amortisation of capital which they considered as a "wise and prudent course". We agree with their view and recommend that a beginning should be made to write down the cost of the intangible assets by contributing 1 per cent. of the gross earnings every year to an Amortisation Fund

We are not sure that the figure of 68 crores does exhaust all items of intangible assets and we would, therefore, recommend that an investigation should be undertaken to arrive at an estimate of all intangible assets and the credit to the Amortisation Fund need not end after Rs. 68 crores are written off, if it is found that there are other intangible assets also to be written off. We would, further recommend that in case any capital expenditure has to be undertaken for reasons other than financial, it might be advantageous to write down the capital in such cases also through this Amortisation Fund.

#### F. Railway Depreciation Fund

**172. *Railway Depreciation Fund.***—The Depreciation Fund on the Indian Railways was started on the 1st April 1924. Prior to this date there was no provision for exhibiting in the railway accounts, the depreciation of railway assets. The actual expenditure on renewals and replacements was met out of grants from Railway Revenues. From the 1st April 1924, credits were afforded to the Depreciation Fund, based on the estimates of the normal lives of the wasting assets. The method adopted was the straight line method. No provision was made at the time for paying the arrears of depreciation to the fund on the 1st April 1924. These arrears are estimated to be in the neighbourhood of 20 crores of rupees. A provision was, however, made in the scheme of separation of Railway and General Finances that the Railway Reserve should be used to provide, if necessary, for arrears of depreciation. This, however, was never carried out in practice.

When the Depreciation Fund was formed in 1924, it was intended to provide for the original cost of units of wasting assets which were replaced. The difference between the original cost and the replacement cost was debited or credited to capital according as the cost of replacement was more or less than the original cost. The Depreciation Fund dealt only with whole units. When portions of units were replaced, the cost of such partial replacements was charged to Revenue.

The Depreciation Fund did not provide for the replacement of non-wasting assets like land, earthwork, tunnels, etc. Fencing and ballast were also excluded from the operation of the Fund, as the cost of their replacement was not expected to vary widely from year to year. During the years of economic depression beginning with 1930-31, the scheme of contributions to the Depreciation Fund was subjected to a detailed review by the Railway Board. It was felt in 1934 that the balance in the Depreciation Fund, which stood at about 34 crores, was excessive. The withdrawals from the

Fund were considerably less than the appropriations to the Fund. On the other hand, the earnings of the Railways were not large enough to enable the interest charges being paid to the General Revenues after meeting the working expenses. Temporary loans to meet deficits were taken from the Depreciation Reserve Fund. These loans aggregated Rs. 31.5 crores at the end of 1935-36. (They were subsequently repaid to the extent of Rs. 1.21 crores in 1936-37, Rs. 7.91 crores in 1941-42 and Rs. 22.38 crores in 1942-43.)

The following table gives an idea of the growth of the Depreciation Fund from its inception to the end of 1933-34 :

TABLE 4  
*Railway Depreciation Reserve Fund*

(In lakhs of rupees)

Year	Appropriation to Fund	Withdrawals towards renewals & replacements	Net accretion to fund during the year	Nominal closing balance	Temporary loans to meet deficit	Actual closing balance
1924-25	10,35	7,29	3,06	3,06	..	3,06
1925-26	10,67	7,99	2,68	5,74	..	5,74
1926-27	10,89	8,05	2,84	8,58	..	8,58
1927-28	11,38	10,95	43	9,01	..	9,01
1928-29	12,00	9,60	2,40	11,41	..	11,41
1929-30	12,59	11,76	83	12,24	..	12,24
1930-31	13,07	11,39	1,68	13,92	..	13,92
1931-32	13,46	8,26	5,20	19,12	4,25	14,87
1932-33	13,77	6,35	7,42	25,54	10,23	12,06
1933-34	13,56	8,07	5,49	32,03	7,96	9,59

During the 10 years, 1924-25 to 1933-34, the total appropriation to the Fund aggregated Rs. 121.74 crores. The withdrawals from the Fund aggregated Rs. 89.71 crores. From the rate at which the balance of Fund was growing, it was felt that the whole basis of credits and debits to the Fund should undergo revision.

The rules governing the Depreciation Fund were considered too complicated. They necessitated keeping a record of expenditure on individual classes of assets incurred in each year, in order to ensure that contributions were paid for the prescribed period of its life. This, in the case of assets purchased before the year 1924-25, *i.e.*, before the fund was started was found impracticable. The expenditure on renewals and replacements of ballast and fencing was found to be varying from year to year, although these wasting assets had been excluded from the scope of the Depreciation Fund on the ground of the expenditure on their renewals being more or less uniform. A distinction was made between units and non-units of wasting assets which necessitated the keeping of elaborate accounts to show the expenditure on units separately. It was also felt that debit to capital of the excess of the replacement cost over the original cost of an asset would result in over-capitalisation.

An analysis of the contributions made to the Depreciation Fund from 1924-25 to 1933-34, on the basis of the assumed normal lives of wasting assets (excluding ballast and fencing), showed that the percentage which the appropriation to the Fund bore to the capital at charge at the end of the previous year ranged between 1.64 per cent. and 1.73 per cent. This was in spite of the fact that the capital at charge itself increased from Rs. 621 crores to Rs. 791 crores during this period.

The range within which the percentage, which the appropriation to the Fund bore to capital at charge, varied, was narrow. It was felt that if instead of computing the credit to the fund every time on the elaborate

basis of the assumed normal lives of the various classes of assets, it was fixed at 1/60th of the capital at charge, the result would practically be the same. This new basis of contribution to the fund was approved by the Standing Finance Committee and given effect to from 1935-36.

There was a contribution of Rs. 13.72 crores to the Fund in 1934-35 and the withdrawals during that year aggregated to Rs. 8.66 crores. The net accretion to the fund during that year was, therefore, Rs. 5.06 crores, which brought the nominal closing balance to Rs. 37.09 crores. A further loan to meet a deficit of Rs. 5.06 crores was taken from the depreciation fund on account of which the actual closing balance remained the same, *viz.*, Rs. 9.59 crores, as at the end of the year 1933-34.

The excess of the cost of replacement over the original cost of wasting assets replaced from 1924-25 to 1933-34 aggregated about Rs. 20 crores. It was felt that from the point of view of sound and good finance, the full cost of replacement of like by like should be met out of the Depreciation Fund. It was decided, with the approval of the Standing Finance Committee, that the full cost of replacement of asset by a like asset or the original cost, whichever was greater, should be charged to the Depreciation Fund, and that the credit realised by disposal of assets in connection with works of replacement should be given to the Depreciation Fund and not to Revenue. This allocation would hold good whether the asset was a wasting or non-wasting asset and whether a complete unit was replaced or not. These changes were given effect to from 1936-37 and detailed rules of allocation were issued for the guidance of Railways.

The progress of the fund from 1934-35 onwards can be seen from the statement below :—

TABLE 5

(In lakhs of rupees)

Year	Appropriation to fund	Withdrawals towards renewals & replacements	Net accretion to fund during the year	Nominal closing balance	Temporary loans to meet deficit.	Actual closing balance
1934-35	13.72	8.66	5.06	37.09	5.06	9.59
1935-36	13.26	9.16	4.10	41.19	4.00	9.69
1936-37	13.17	7.88	5.29	46.48	-1.21	16.19
1937-38	12.59	7.69(a)	4.90	49.90(b)	..	19.61 (b)
1938-39	12.56	7.08	5.48	55.38	..	25.09
1939-40	12.59	6.53	6.06	61.44	..	31.15
1940-41	12.64	7.19	5.45	66.89	..	36.60
1941-42	12.68	5.35	7.33	74.22	-7.91	51.81
1942-43	12.80(c)	4.95	7.85	82.07	-22.38(f)	82.07
1943-44	16.87	6.64	10.23	92.30	..	92.30
1944-45	17.01	8.18	8.83	1,02.21	..	1,02.21(*)
1945-46	17.25(e)	12.01	5.24	1,07.45	..	1,07.45
1946-47	13.21	12.37	84	1,08.29	..	1,08.29
1947-48 (1-4 to 14-8-47)	6.52	2.38	4.19	1,12.48(f)	..	1,12.48(f)
1947-48 (Revised 15-8-47 to 31-3-48)	6.81	8.51	1.70	90.48	..	90.48
1948-49 (Budget Estimate)	11.18	23.43	-12.25	78.23	..	78.23

Note :—

(a) Includes 32 lakhs written off capital on account of abandoned assets.

(b) Excludes 1.48 lakhs balance for Burma Railway.

(c) Includes 23 lakhs transferred from Bengal and North Western and Rohilkhand and Kumaon Railways' Renewal suspense.

(d) Includes 6.30 lakhs transferred from the Railway Reserve Fund.

(e) Includes 20 lakhs recovered from the Bengal & North Western Company on account of over-aged rolling stock.

(\*) Includes 1.03 lakhs transferred from Renewals Reserve Fund for permanent way and rolling stock of the Bengal-Nagpur, Madras & Southern Mahratta & S. I. Railways.

(f) Includes 20.30 lakhs, the estimated balance relating to Pakistan Railways

At the end of the year 1942-43, the fund had received back the entire loan which it had made to meet Railway deficits and the balance stood at Rs. 82.07 crores.

It became clear in 1943, that the Railways were being subjected to increased wear and tear on account of the heavy traffic handled by them during the War, and that replacement of assets had to be postponed owing to new units not being readily available. It was also clear that the replacement costs were mounting up steadily. The railway earnings from 1940-41 onwards showed substantial increases and the railways could, therefore, afford to make larger contributions to the Depreciation Fund than 1/60th of the capital at charge. Additional *ad hoc* contributions were, therefore, made to the Depreciation Fund from 1943-44 to 1945-46 with the result that at the end of 1945-46 the balance in the fund had accumulated to Rs. 107.45 crores. From that year, the withdrawals from the fund also registered heavy increases, the provision for the year 1948-49 being Rs. 23.43 crores. After deducting a transfer of Rs. 20.3 crores, being the estimated balance relating to Pakistan Railways, the balance in the fund at the close of the year 1948-49 is expected to be Rs. 78.23 crores.

The change in allocation rules introduced with effect from 1936-37 had the effect of avoiding over-capitalisation. But it also had the effect, in periods of high prices, of depleting the depreciation fund rapidly while the credit to the fund did not in any way benefit by the increased prices. The fund had already suffered by the omission to credit the arrears of depreciation as on 1st April 1924. The untenability of the position created by the arrangements introduced from 1935-36 was recognised in 1943. Since this year the question of revising the rules relating to the Depreciation Fund has been under consideration, but no final decisions have been arrived at so far. As mentioned, *ad hoc* additional payments were made to the fund from the railway revenues for 3 years. A Committee, which was appointed by the Legislative Assembly on the 23rd March 1943 to review the convention regarding the railway finance, gave some thought to questions relating to the Depreciation Fund. A Railway Depreciation Fund Committee, consisting of a retired Financial Commissioner, a Chief Mechanical Engineer of a railway, and a retired Deputy Chief Engineer of another railway, was formed in 1944, to conduct enquiries in connection with the Railway Depreciation Fund. That Committee functioned for about three months, at the end of which it was wound up before it could arrive at any final conclusions. In November 1945, a fresh enquiry was started by the Finance Branch of the Railway Board and the railways were asked to submit whatever information was available regarding the periods after which different assets were replaced and other connected matters. Based on the information collected from the railways, certain tentative conclusions, have, it is understood, been arrived at by the Railway Board. These conclusions mainly related to the expectations of the lives of the different classes of wasting assets and the percentage rates of contribution to the Depreciation Fund which should be made in respect of those assets. The conclusions are summarised at Appendix XXVIII.

From a memorandum prepared by the Railway Board, it is noticed that, of the total capital outlay of Indian Government Railways on 31st March 1946, about 70 per cent. was in respect of wasting assets. The relative importance of the various classes of wasting assets is given below :

Bridge work	10.0
Permanent way	25.9
Buildings	13.8
Station Machinery	5.3
Plant and Machinery	2.6
Locomotives	7.9
Boilers	1.4
Carriages	8.8
Wagons	14.6
Motor Vehicles	0.1
Ferries	0.6
Electrical assets (other than rolling stock)	3.0

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100.0

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On examining the tabular statement in Appendix XXIX and the details of the various classes of "wasting assets", given above, it will be seen that the revised lives are not likely to result in any large increase in the rate of contribution to the Depreciation Fund.

The most important factor that has now affected the fund adversely is the heavy replacement cost of assets. With the prevailing uncertainty regarding prices, it is not possible to say definitely what should be the target aimed at for the balance at the credit of the fund. While the balance of about 34 crores was considered excessive in 1934, a figure of over Rs. 100 crores was considered too small in 1943. Both the views were correct when considered with reference to the ruling levels of prices.

But in any case this and other allied matters are subjects on which discussion cannot lead to results which would hold good for all times. We feel that as soon as it becomes clear that the replacement costs will continue to be heavy, the appropriation to the Fund should have been increased substantially over the comparatively small *ad hoc* additional contributions now being made from year to year.

Past experience, however, enables us to formulate certain ideas which would help the maintenance of the Fund at a reasonable level. The primary object of the Depreciation Fund is to enable it to meet the complete cost of renewals of assets falling due from year to year. The Fund is expected to have a balance of Rs. 78.23 crores at the close of the year 1948-49. It would be prudent not to reduce this balance much below this figure as unexpected replacements due to unforeseen causes might become necessary. In a forecast drawn up some time ago by the Railway Board, it was expected that the average of the original cost of replacements due from 1949-50 to 1964-65 was about Rs. 13 crores per annum. This included the Pakistan Railways. The share of the Indian Government Railways would come to approximately Rs. 11 crores on the basis of original cost. We have examined the relative costs of the various assets—Locomotives, Carriages, Wagons, Track materials and Fittings, etc., etc., and have come to the conclusion that the cost of replacement by like assets would, at the present prices, be at least twice the old cost and, therefore, we consider that a credit of about Rs. 22 crores per annum to the Depreciation Fund would not be in excess of the actual cost of replacement of assets year by year.

As in the present unstable conditions no fixed principle can be laid down for making allocation to the Fund, we content ourselves to recommending that an annual contribution to the Fund for the next 5 years be made at about Rs. 22 crores per annum. Thereafter, when the prices stabilise, an enquiry should be undertaken to determine the rate at which contributions should be made for the replacement of worn out assets.

While we do not wish to anticipate the methods to be recommended in the future, we believe that the formula for the contribution to the Fund should be such as to take account of the element of increased prices, which would automatically allow for any appreciable variation in the general level of replacement costs. As gross earnings of railways reflect in some measure, the general economic level of the country, we would tentatively suggest that the contribution should be related *inter alia* to gross earnings.

### G. Separation of Accounts and Audit

173. *Separation of Accounts and Audit.*—The Acworth Committee recommended in 1921 that the Railway Department should be responsible for its own Accounts and that such independent and separate Audit as the Government of India may think proper to make, should be employed to check and report on the books kept by the Accounting staff. Separation of Accounts and Audit was introduced as an experimental measure on the E. I. Railway in 1926. It was introduced in 1929 as a permanent measure on all the Indian Government Railways.

The advantages claimed for the separation of Accounts and Audit were summarised in paragraph 6 of the Report by the Railway Board which was submitted to the Secretary of State as an enclosure to the Government of

India Despatch No. I-Ry. of 1929, dated 31st January, 1929. They were as follows :—

- “(a) The earlier preparation of such accounts and returns as are required by the Executive and the Administration for the control of expenditure against estimates and grants;
- (b) the prevention of irregular expenditure;
- (c) the speedy removal of expenditure held under objection on technical considerations;
- (d) the introduction of revised system of accounting and detailed methods of procedure, more in accordance with commercial practice in the Administrative, Executive and Accounts offices which are directed to secure greater efficiency and to reduce establishment costs;
- (e) greater attention by all concerned, but specially by the Accounts Department, to the internal economy of the Railway. This would cover all proposals for reducing working costs in wages, materials and sundry charges, for reduction of stores balances and for the prevention of losses;
- and (f) the creation of an audit organisation absolutely independent of the administration.”

The following paragraphs will show how far these expectations have been actually realised :—

(a) *Earlier preparation of accounts and Statistical returns.*—It was hoped that the final account of earnings and the connected revenue statistical compilations which had till then been completed about 48 days after the close of the month to which they related would, under the separation, be completed in 18 days, *i.e.*, 30 days earlier. It was also expected that the final accounts of each railway, both in respect of earnings and expenditure, would be available by the 20th of the succeeding month, which was a month in advance of the date by which those accounts had been available. Certain other advantages were also claimed which were directly consequential to earlier closing of accounts. In actual practice, however, it has never been possible to advance these dates by more than about 12 days. In fact, almost immediately after the preparation of the report by the Railway Board, the Board themselves decided—*vide* C.R.A.'s letter No. 68-CRA-Acs., dated 20th December, 1929—that the accounts should be submitted on the 6th of the second following month. It has, however, been seen that even this date could not be kept by certain railways. Granting that it would be possible for the railways to submit their accounts on the 6th of the second following month, the process by which the saving of about 12 days has materialised has very little to do with the separation scheme. The same processes could operate very well under a scheme of a combined Accounts and Audit organisation.

(b) and (c) *Prevention of irregular expenditure and speedy removal of expenditure held under objection on technical considerations.*—In paragraph 14 of the Report of the Railway Board referred to above, the Railway Board stated as follows :—

“14. While the internal economy of the railway is one of the chief objectives of the improved financial control over expenditure there are other important directions in which benefits are derived as a result of such control. The prevention of irregularities; the speedy removal of expenditure held under objection; and the control of expenditure against appropriation are the more important of these.”

It is true that the prevention of irregularities and the speedy removal of expenditure under objection would follow “improved financial control over expenditure”. The fact that improved financial control has not resulted from the separation has been admitted by the Financial Commissioner in a note recorded by him in 1946. As regards regularisation of expenditure held under objection, there is no reason why it need be less speedy in a combined Accounts and Audit Office than in a separate Accounts Office.



What is required is personal touch, the importance of which has to be recognised by all concerned.

(d) *The introduction of revised system of accounting and detailed methods of procedure, more in accordance with commercial practice in the Administrative, Executive and Accounts Offices which are directed to secure greater efficiency and to reduce establishment costs.*—Whatever system of accounting or methods of procedure may be adopted by the railways, the main requirement of the Auditor General, namely facility to check and comment on Appropriation Accounts prepared by the Accounts Officers has to be complied with. If this condition is accepted, there is no reason why a combined Audit and Accounts organisation should have any objection to, or difficulty in, meeting the wishes of railway administrations in regard to the system of accounting or detailed methods of procedure. The separation of Accounts and Audit has been in operation for the last 18 years, but there is nothing to show that greater efficiency or any reduction in establishment costs has been achieved merely as a consequence of the separation. On the other hand, when the separation scheme was actually introduced, it was claimed that there would be a large saving in expenditure on establishment, but the Railway Retrenchment Sub-Committee of 1931 actually found that "the separation has, in all railways, resulted in increased direct costs". They stated that they could not escape the conclusion that the optimism of the framers of the estimate of financial results of separation when they expected a saving in direct costs of the Accounts and Audit Departments, was far from being justified by results.

(e) *Greater attention by all concerned, but especially by the Accounts Department, to the internal economy of the railway: This would cover all proposals for reducing working costs in wages materials and sundry charges, for reduction of stores balances and for the prevention of losses.*—There is nothing positive to show that separation has resulted in any such improvements.

(f) *The creation of an Audit Organisation absolutely independent of the administration.*—This can be fulfilled whether the Audit organisation exists by itself or in combination with the Accounts organisation.

It can be safely concluded that the separation of Audit and Accounts has not produced to any considerable extent, the various advantages which were claimed for it at the time of its introduction. The alternative to separation is the amalgamation of Audit and Accounts and placing the combined organisation under the control of the Auditor General.

The General Managers of the Railways are, without exception, of the opinion that they must retain the control over the Financial Adviser and Chief Accounts Officer and his organisation. The advantages claimed by them are purely theoretical and no material benefit has actually resulted from the existing arrangement. It is, however, unwise to ignore altogether the consensus of opinion of the General Managers against amalgamation.

The Secretariat Reorganisation Committee recommended last year that in order to release man power, the Audit and Accounts Sections on Railways should be combined. Government decided that this recommendation should be fully examined and an *ad hoc* Committee was appointed by the Transport Minister for the purpose. A Committee was accordingly appointed last year with the following terms of reference:—

To examine and report—

- (1) whether it is feasible and desirable to reamalgamate Audit and Accounts Organisation on Indian Government Railways under the control of the Auditor-General;
- (2) what economies in personnel would be possible by such reamalgamation after providing an adequate machinery for financial control; and
- (3) if an amalgamation is not recommended, whether any other re-arrangement is possible from a short or long term of view to effect saving in man power,

The Committee came to the conclusion that it would not be desirable to re-amalgamate Audit and Accounts. As regards the economies possible from amalgamation, the Committee reported as follows:—

***"Economies possible from amalgamation.*—If our view is accepted that it is not desirable to amalgamate Accounts with Audit or to separate Accounts from Finance, the question of economies in personnel from such re-arrangement, after providing an adequate machinery for financial control, also becomes more or less academic. We have, however, given considerable thought to the question and taken such evidence as was possible. It was obviously impossible within the time at our disposal to examine the question in such detail as would enable us to work out the exact figures but we are satisfied that no economies in superior man power can result from such a re-arrangement."**

The recommendation of the *ad hoc* Committee have, we understand, been accepted by the Cabinet. The *ad hoc* Committee rightly presumed that in the event of amalgamation of Audit and Accounts a separate Finance Branch would have to be formed on each railway. The estimate of additional gazetted staff for a separate Finance Branch, which was prepared by the Financial Commissioner, was as follows:—

“(a) E. I. Railway :—

Principal Officer	One
Senior Scale Officers	Two

(b) G. I. P., B. B. & C. I., B. N., S. I. and M. & S. M. Railways:—  
Two officers each, one of whom would be in the administrative grade.

(c) E. P., O. T. and Assam Railways: —

One Junior Administrative Officer each.

Total ..... Sixteen."

In this estimate, provision has apparently been made for a full-fledged Financial organisation, which would undertake duties much more elaborate than the duties in regard to financial advice, which the present F.A. & C. A. O. is performing. An idea of the extent to which the existing organisation will have to be strengthened to ensure the same standard of financial advice, can be had from the fact that, on the B. B. & C. I. Railway sanction has already been accorded to the diversion of one junior administrative post to the finance branch and to the creation of one junior scale post. The Chief Accounts Officer of the B. B. and C. I. Railway in his evidence before us stated that he would require one more senior scale officer, to complete his "Finance" organisation. Extra gazetted staff required to perfect the financial organisation, taking a general view of the requirements of all the railways might on this scale be nearly the same whether separation or amalgamation of Audit and Accounts is decided upon. But the F. C. in his evidence before us stated that he did not consider it necessary to give the B. B. & C. I. Railway more than one additional junior scale officer. The question whether there should be separation or amalgamation of Audit and Accounts should, therefore, be decided on considerations other than those relating to the extra staff required for a complete finance organisation.

(Our conclusions are:

our conclusions are:

(a) that separation of Audit and Accounts has not produced any considerable advantages;

(b) that any saving resulting from the amalgamation of Audit and Accounts would be counter-balanced by the extra expenditure on the formation of separate Finance Branches on railways in the event of amalgamation; and

(c) that the psychological advantages claimed by the General Managers in favour of separation cannot be ignored altogether.

The F. A. & C. A. Os. of the various railways, whom we examined, were in favour of continuing the "separation." On the evidence before us, therefore, we are not in a position to suggest that the decision already arrived at by the Cabinet need be reconsidered.

## CHAPTER X—STAFF

## A. Staff Requirements

174. *Increase of Staff.*—There have, for many reasons, been large increases in staff on all the Indian Government Railways during the war and postwar years. Part of this increase has been due to railways engaging in fresh activities, such as the procurement and distribution of food to railway staff, manning of new depots and lines, etc., but most of it has been caused by the expansion of staff to meet the war time needs. The following table gives the number of employees for the three years 1938-39, 1945-46 and 1946-47, the figures for 1946-47 exclude the B. A. and N. W. Railways for which information is not available:—

TABLE 1. No. of staff as on 31st March (000)

Railway	1938-39	1945-46	1946-47
B. A. . . . .	70·8	141·0	..
B. N. . . . .	69·8	94·5	101·3
B. B. & C. I. . . . .	62·8	81·8	86·2
E. I. . . . .	130·5	171·4	189·3
G. I. P. . . . .	77·7	146·7	154·1
M. S. M. . . . .	47·2	65·4	73·0
N. W. . . . .	101·8	134·8	..
O. T. . . . .	34·6	41·7	45·8
S. I. . . . .	36·8	48·6	53·0
Total . . . . .	632·0	925·9	
Total excl. B.A. & N.W. Rlys . . . . .	459·4	650·1	702·7

175. *Circumstances leading to the increase in staff.*—In estimating the staff requirements on the railways, we have to remember one important factor. It has been stressed by some of the railways that in considering the increase in staff during the war years, that is, between 1938-39 and 1945-46, we should bear in mind the large scale retrenchment which was carried out during the years of financial depression. This policy resulted in large reductions in the strength of staff on almost all the railways. The search for economy compelled the utmost stringency and there is little doubt that the strength of staff was cut down to the bare minimum required for the operation of the railways. The result was that the onset of the war found the Indian Railways without much reserve of strength. The tremendous increase in the demand for transport of both men and materials necessitated by the war, therefore, beset the Indian Railways with a problem of the greatest magnitude. Without any appreciable improvement in plant or equipment, the Indian Railways were compelled to meet unprecedented demands. War requirements brooked no delay and, therefore, it was inevitable that at times the strength of the staff should be increased beyond the limits necessary for efficient management. It may also be mentioned that in 1944 the railways were asked to be prepared for a further increase in traffic to the tune of about 20 per cent. and most of the railways found it necessary to recruit additional staff for meeting this potential demand. The cessation of hostilities in 1945 meant that this potential demand did not materialise and the result was that the staff strength in 1945-46 was much in excess of the railways' immediate future requirements.

176. *Government policy of caution in regard to staff retrenchment.*—This brought to the front the possibility of retrenchment of the men not immediately required. This was opposed by organised labour which compelled the Railway Board to adopt a policy of caution. The following extract from the speech of the Hon'ble Minister (then Member) for Transport and Railways, delivered in February 1946, in introducing the Rail-

way Budget for 1946-47, is of interest in this connection :—

“Government is, of course, well aware of the widely felt fear that a reduction in railway activity and the absorption of ex-servicemen will result in the discharge of large numbers of temporary staff. Publicity has been given to a number of misleading figures which bear no relation to fact. It is true that a certain amount of purely war work undertaken by the Railways has ceased, together with a portion of the purely military traffic. This military traffic has, however, so far largely been replaced by increased civilian traffic and although it is difficult to look far ahead, there seems every prospect during the coming years of a demand for rail transportation comparable to that of 1943-44. But apart from this, rehabilitation works and new projects will absorb large numbers of railway workers in alternative employment and are being put in hand as rapidly as the supplies of raw materials and the need for preparatory work permit. A variety of other means have also been adopted to avoid retrenchment on a large scale. Overtime has been cut down in some cases, reduced hours of work for certain types of staff have been introduced; greater facilities for leave resulting in the entertainment of more substitutes have been arranged; certain leave rules as a long-term policy—have been liberalised, while some work normally carried out by contract is, where possible, being temporarily allotted to departmental staff. The Railway Board and Railway Administrations are exploiting all these methods to the fullest possible extent in order to avoid throwing large bodies of workers out of employment during the immediate postwar period. There is no reason to believe that their efforts will not meet with success, but while the railways are playing their part in creating work for the workers, their degree of activity is, of course, ultimately dependent upon the general state of economic activity.”

While we appreciate the Government's genuine desire to avoid throwing large bodies of men out of railway employment by taking special measures to absorb them, we regret to note that even after February 1946, when the speech was delivered, there has been an increase in the staff on all the railways; the total staff on Government railways, excluding the B. A. and N. W., which stood at 650,100 in 1945-46 increased to 702,700 in 1946-47, i.e. an increase of 8 per cent. and this number has increased still further, though the exact figure is not at present available. We do not wish to go into the reasons for these increases here but we may say that we have been informed that at least some part of the increase has been due to the further liberalisation of hours and conditions of work. We think that this alone cannot explain the heavy rise in staff on the pre-war standard.

177. *Staff utilisation.*—The general level of efficiency of man-power, judged by whatever standard one may adopt, would appear to have declined since 1942, necessitating the employment of extra hands. This has been dealt with more fully later, but the figures of men employed per 1000 train-miles would be of interest here.

TABLE 2.—*Statement showing the number of employees per 1,000 train miles (All Government Railways)*

Year	No. of employees	Train miles in thousands	No of employees per 1000 train miles
1938-39 . . . . .	6,32,087	179,047	3.53
1939-40 . . . . .	6,36,859	180,438	3.53
1940-41 . . . . .	6,56,723	182,555	3.60
1941-42 . . . . .	6,83,925	187,105	3.66
1942-43 . . . . .	7,52,870	180,046	4.70
1943-44 . . . . .	8,20,483	156,575	5.24
1944-45 . . . . .	9,00,031	163,515	5.50
1945-46 . . . . .	9,25,880	172,955	5.35
1946-47 . . . . .	9,78,434	179,926	5.44

## X. STAFF REQUIREMENTS

TABLE 3.—Statement showing the No. of employees per 1000 train miles (all Govt. Rlys. excluding old N. W. and B. A. Rlys.).

Year	No of employees	Train miles in thousands.	No of employees per 1000 train miles.
1938-39 . . . . .	4,50,408	134,434	3.42
1939-40 . . . . .	4,63,150	136,335	3.40
1940-41 . . . . .	4,70,957	137,875	3.48
1941-42 . . . . .	4,98,287	140,816	3.54
1942-43 . . . . .	5,42,284	119,703	4.53
1943-44 . . . . .	5,83,147	115,057	5.07
1944-45 . . . . .	6,24,019	117,841	5.30
1945-46 . . . . .	6,50,170	126,395	5.14
1946-47 . . . . .	7,02,724	134,277	5.23

We now proceed to examine the question of staff and their performance on the railways individually.

TABLE 4.—No of staff—Index 1938-39 = 100

Railways.	1938-39		1945-46		1946-47	
	No. of staff.	Index	No. of Staff.	Index	No. of staff.	Index
	(000)		(000)		(000)	
B. A. . . . .	70.8	100	141.0	199.2	..	..
B. N. . . . .	69.8	100	94.5	135.4	101.3	145.1
B. B. & C. I. . . . .	62.8	100	81.8	130.3	86.2	137.3
E. I. . . . .	130.5	100	171.4	131.2	189.3	145.1
G. I. P. . . . .	77.7	100	146.7	188.8	154.1	198.3
M. S. M. . . . .	47.2	100	65.4	138.6	73.0	164.7
N. W. . . . .	101.8	100	134.8	132.4	..	..
O. T. . . . .	34.6	100	41.7	120.5	45.8	132.4
S. I. . . . .	36.8	100	48.6	132.1	53.0	144.0
Total. . . . .	632.0	100	925.9	146.5	..	..
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Total excl. B. A. & N. W. . . . .	459.4	100	650.1	141.5	702.7	153.0

TABLE 5.—No. of staff per 1000 train miles.

Railways	1938-39	1945-46	1946-47
B. A. . . . .	3.88	6.64	..
B. N. . . . .	4.20	5.29	5.31
B. B. & C. I. . . . .	3.34	4.80	4.51
E. I. . . . .	3.88	5.90	6.12
G. I. P. . . . .	3.30	5.29	5.49
M. S. M. . . . .	3.27	4.43	4.83
N. W. . . . .	3.86	5.32	..
O. T. . . . .	2.94	4.39	4.39
S. I. . . . .	2.36	4.64	4.59
All Railways. . . . .	3.53	5.35	5.44
All Rlys. excl. B. A. & N. W. . . . .	3.42	5.14	5.23

These figures should not be taken at their face value. As will be seen, we have used the 'yard-stick' of train-miles but would stress that we do not, for a moment, consider this 'yard-stick' as entirely scientific. To take one example, the amount of work involved per passenger train-mile is much less than the work per goods train-mile. Considering that during the war and the immediate postwar years, the proportion of passenger train-miles was less than before the war, we would naturally expect some increase in the figure of the number of employees required on the basis of

train-miles. As the results shown in the above tables may appear unduly unfavourable, we have compiled the following tables in which we have taken as a 'yard-stick' net ton miles.

TABLE 6.—No of staff per million net ton miles (passenger, mixed &amp; goods)

Railways	1938-39	1945-46	1946-47
B. A. . . . .	55.34	61.9	..
B. N. . . . .	21.3	24.5	24.3
B. B. & C. I. . . . .	32.1	31.7	33.4
E. I. . . . .	19.5	22.9	25.2
G. I. P. . . . .	26.7	29.6	35.0
M. S. M. . . . .	31.9	31.6	38.1
N. W. . . . .	32.7	32.2	..
O. T. . . . .	41.1	44.0	56.6
S. I. . . . .	56.8	45.5	52.4
All Govt. Rlys. . . . .	28.5	30.7	..
All Govt. Rlys excl. B. A. & N. W. . . . .	25.8	27.5	31.4

We do not, however, consider that this table necessarily gives a more correct picture than the table based on train-mileage. The figures for net ton mileage are necessarily highly artificial as passenger miles and goods ton miles are added together on the basis of an arbitrary estimate of the weight of a passenger for the purpose of ton miles, as set out in the Manual of Statistical Instructions, page 39. Further the figures in recent years have been inflated by the considerable amount of overcrowding of passenger trains which has occurred. Such increases in the number of passengers per train only increase the work of booking and ticket checking staff.

Further, in assessing what value is to be given to the above set of tables, it is to be remembered that work at present in progress as a result of war time arrears of renewals, etc., such as relaying and renewal of track, heavier repairs to locomotives and other rolling stock, etc., requires the employment of a considerable number of extra hands. A large number of men also are now employed departmentally on work which was previously being done by contractors. Leave Rules have been liberalised since 1938-39, resulting in some increase in staff. There are also about 20,000 men employed in the Food Organisation, which did not exist in 1938-39. But, after making due allowances for all the above considerations, we are still of the opinion that an important part of the increase in staff has not been adequately explained. We do not, however, suggest that the increase is necessarily inexplicable. Further, the implementation of the Adjudicator's Award will, we are informed, involve an addition of 118,000 extra men in certain categories.

As will be seen later, we have made an analysis of the staff and their performance in detail for each category, as matters stood at the end of the year 1945-46. Owing to the subsequent changes, these figures are not now up-to-date and we, therefore, do not include them in the body of our Report but annex them as Appendix XXIX. Nevertheless, these calculations generally indicate that the increase in staff has been very much in excess of their performance in almost every category. There is, therefore, a *prima facie* case for a close job analysis in every department of the railway to ascertain whether there is adequate justification for maintaining establishments at the present very high level.

The general examination has disclosed that there has been a general falling off in the efficiency of the railwaymen, reference to which has been made in the preceding chapters. However, in considering this matter we obtained detailed statistical information for 1938-39 and 1945-46 and tried to evolve some kind of 'yard-stick' or measure in an attempt to correlate the increase in staff to the increase in the work done. We realise that reliance on any such measure, however carefully the 'yard-stick' may have been devised, may lead to erroneous conclusions. We, therefore, drew up memoranda analysing the variations of staff by categories and circulated them to the different railways for their comments in relation to local conditions. We expected that all railways would have figures of their own staff requirements by categories and be in a position to advise us about any

existing staff surplus and means of absorbing them. We have to note with regret that few railways seemed to have considered this aspect of the question at least at that time (Mid 1947). The replies were in some cases incomplete and in others they were unhelpful. Later, it was considered neither necessary nor proper to obtain from the Railways a detailed break-up of staff by categories and to analyse them in the same detail as we had done previously. The reason was that such detailed comparison apart from being very onerous to the railways would in any case be vitiated by Partition transfers.

178. *Difficulties encountered in estimating staff requirements.*—Before making any general estimate of staff requirements on the railways, we had necessarily to await the Government's decision on the Award of the Adjudicator, which was expected to involve some liberalisation of service conditions. When the Committee was first formed, it was anticipated that the decision on the Adjudicator's Award would be in our hands before we started work in April 1947, and it was hoped that this information would enable us to arrive at both the surpluses and shortages in the various categories, so that we could then consider how one could best be set off against the other, i.e. to what extent it might be feasible and necessary to transfer staff from one category to another.

In practice, this time table did not work out. The Adjudicator's Award was not signed until May 1947, and the Government did not pass orders on it until June 1948, i.e. more than 14 months later than was originally anticipated. The estimate of the staff required to implement the Award, category by category, was not available to us before September 1948, by which time we were being pressed to complete our report. Also the General Managers and Senior Officers have, with some exceptions, been shy of disclosing estimates of surplus staff or even agreeing that they actually had any. This attitude, whatever motives may have prompted it, has gone a long way to prevent us from discharging satisfactorily our second term of reference, as it is clearly out of the question that we could job analyse the work done even by a minute percentage of the staff, which, *vide* table 2, was not far short of the million mark at the time the Committee was set up. The issue of Government's decision on the Adjudicator's Award at so late a date has so seriously delayed the job analysis work which, we understand, the Railways have now in hand that the results will not be of any practical use to us.

In August, we were informed that the Railway Board had made a detailed examination of the staff requirements to meet the Adjudicator's proposals. After completing this examination, the Ministry of Railways issued the Communique "No retrenchment on Railways" referred to in paragraph 4, Chapter I. In view of this, we considered that it was unnecessary for us to pursue the matter further. The Ministry of Railways having come to the conclusion that not merely was there no surplus but that an appreciable increase in staff was likely, we informed the Government that we considered it unprofitable to deal further with the questions of the estimation and absorption of the surplus staff. However, certain indications of surplus staff have been given in Chapters III and IV.

### B. Staff Efficiency

179. *Fall in efficiency.*—In the previous section, we have dealt with the general increase in staff on the railways. We now proceed to consider the increase in staff in certain main categories. In Chapter IV, we have dealt with the workshop staff and have shown that the efficiency of labour has gone down in recent years by 33 to 40 per cent. based on past achievements. We have also commented on the fall in efficiency in other spheres in Chapter V. We give below the relevant data to show the extent of deterioration in some categories of staff not previously considered. The comparison has been made between the figures for 1938-39 and 1945-46. Since 1945-46, however, there has been a further rise in the number of men without a corresponding increase in work done, indicating a still further fall in efficiency.

TABLE 7.—*Running (Power) Staff.*

Railways	Number of staff			Engine hours (00)			% age reduction of work per head of staff.
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease	
B. N.	3,103	4,533	+46.0	2,439.7	3,099.2	+27.0	-13
B. B. & C. I.	2,136	2,491	+16.6	1,882.0	2,073.5	+10.2	-6
E. I.	5,212	7,840	+50.4	4,508.4	4,758.4	+5.6	-30
G. I. P.	2,794	4,970	+77.8	1,974.7	3,093.1	+56.6	-12
M. S. M.	2,246	2,644	+17.7	1,768.3	2,072.4	+17.2	..
O. T.	1,575	1,892	+20.0	1,528.7	1,589.1	+4.0	-14
S. I.	1,721	2,132	+23.9	1,528.5	1,185.4	-22.5	-37

TABLE 8.—*Shed (Power) Staff*

Railway	Number of staff			Engine miles (000)			% age reduction of work per head of staff.
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease	
B. N.	5,791	7,839	+35.4	22,537	25,787	+14.4	-16
B. B. & C. I.	5,225	6,674	+27.7	19,801	18,478	-6.7	-27
E. I.	8,708	13,319	+53.0	43,785	40,681	-7.1	-39
G. I. P.	5,324	17,45	+225.7	24,391	30,768	+26.1	-61
M. S. M.	4,45	6,061	+35.8	17,398	18,848	+8.3	-20
O. T.	2,461	3,002	+22.0	14,763	12,988	-12.0	-28
S. I.	3,199	3,879	+21.3	16,366	11,498	-29.7	-42

TABLE 9.—*Train Examining (Carriage & Wagon) Staff*

Railways	Number of staff			Vehicle & Wagon miles			% age reduction of work per head of staff
	1938-39	1945-46	% increase or decrease	1938-39(000)	1945-46(000)	% increase or decrease	
B. N.	1,409	1,613	+14.5	465,351	527,339	+13.3	-1
B. B. & C. I.	620	752	+21.3	442,904	427,863	-3.4	-20
E. I.	2,074	2,883	+39.0	962,847	977,864	+1.6	-27
G. I. P.	1,493	3,242	+117.1	524,161	661,992	+26.3	-42
M. S. M.	569	749	+31.6	330,582	363,482	+9.9	-16
O. T.	668	714	+6.9	242,339	240,643	-0.7	-7
S. I.	147	209	+42.2	250,059	231,643	-7.4	-35

TABLE 10.—*Station (Traffic) Staff*

Railway	Number of staff			Train miles (000)			% age reduction of work per head of staff.
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease	
B. N.	5,125	6,453	+25.9	16,096	16,684	+3.75	-18
B. B. & C. I.	6,814	7,005	+2.8	16,075	14,225	-11.5	-14
E. I.	12,865	14,835	+13.3	32,072	25,285	-14.9	-26
G. I. P.	8,844	10,596	+19.8	19,848	22,383	+12.8	-6
M. S. M.	3,965	4,345	+9.6	14,236	14,299	+0.4	-6
O. T.	3,171	3,725	+17.5	11,229	9,031	-19.6	-32
S. I.	Not Available	6,831		14,089	8,970	-36.3	Not Available



TABLE 11.—*Running (Traffic) staff.*

Railways	Number of staff			Train hours (00)			% age reduction of work per head of staff.
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease	
B. N.	1,048	1,479	+42.8	1,108,11	1,291,6	+16.6	-17
B. B. & C. I.	688	833	+21.1	1,025,7	1,040,0	+1.4	-16
E. I.	1,912	2,593	+35.6	2,283,2	2,237,6	-2.0	-28
G. I. P.	1,414	2,175	+53.8	1,017,4	1,443,0	+41.8	-8
M. S. M.	907	1,134	+25.0	986,6	1,059,3	+7.37	-14
O. T.	552	571	+3.4	755,0	716,1	-5.15	-8
S. I.	Not Available	1,232		848,4	614,4	-27.6	Not Available

TABLE 12.—*Yard (Traffic) Staff.*

Railways	Number of staff			Wagon miles (000)			% age reduction of work per head of staff
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease	
B. N.	2,891	5,048	+74.6	335,164	369,291	+10.2	-37
B. B. & C. I.	2,040	2,647	+29.8	278,677	297,097	+6.6	-18
E. I.	4,037	5,000	+23.9	676,605	700,339	+3.5	-16
G. I. P.	2,920	4,958	+69.8	337,631	415,954	+23.2	-27
M. S. M.	1,226	1,730	+41.1	213,853	220,875	+3.3	-27
O. T.	1,863	2,541	+36.4	132,920	149,202	+12.2	-18
S. I.	Not Available	491		100,489	128,894	+28.3	Not Available

The reasons for this serious loss in output are not far to seek, nor are they confined to the railways alone. There has been a general slackening of discipline; increasing number of employees are failing to give of their best and many of them appear to have lost their pride in the job. We refer to this problem in Chapter V also.

A considerable deterioration in the morale and efficiency of the railway workers has taken place during the last few years owing, we believe, primarily to the continued inflation and the worsening of the cloth and food situation causing a reduction in the standard of living in spite of increase in earnings. These are probably the most important factors leading to deterioration of morale and efficiency. In addition, there are other factors, such as the growth of subversive influences, failure to appreciate that increased production is a national necessity, and dilution of staff. We therefore, consider that our suggestion for an improvement in the efficiency and morale of men must be on a long term basis. These suggestions require better service conditions, better training, better chances for advancement, better living conditions, improved supervisions and above all, better discipline and the creation of *esprit de corps* and the building up of a tradition of national service as speedily as possible.

180. *Adjudicator's Award.*—The terms of reference to the Adjudicator related to hours of work, weekly rest, leave reserve and leave rules and the Award has been accepted by Government. Although the implementation of this Award to the full extent is expected to take three years, yet when the work is completed, we have no doubt that the service conditions of the categories of staff concerned will have been very much improved.

181. *Security of tenure.*—Since 1942, there has been a general order restricting confirmation of employees owing to Government's undertaking

that war service candidates would be absorbed in a certain proportion of vacancies. This has resulted in large numbers of men having to be kept as "temporary" for a number of years, a fact which, we think, has contributed in no small measure to the prevailing discontent among the railway employees. We have noted that instructions have recently been issued that a large percentage of such "temporary" men should be confirmed. We feel that this action should go a long way towards reducing discontent amongst the temporary staff.

182. *Necessity for improved training of Officers and Staff.*—Efficiency in any Government Department or business concern depends to a large extent upon the conditions of recruitment and the training of staff. This applies to all ranges of the service from the highest to the lowest. Even discipline largely depends upon the evolution of a satisfactory system in these respects. In the case of the railways, the methods of recruitment and training differ in respect of the superior, the subordinate and the inferior staff; but certain general observations would apply to all of them equally.

There have been complaints both from the Railway Board and the individual administrations about the fall in the standard of efficiency. At times, this criticism has applied not only to the class III and IV employees but to officers as well. From the evidence tendered before the Committee, it seems clear that there has been no fall in the standard of ability of the new recruits. This applies specially to officers, but holds good of the subordinates and the class IV staff, as well. If then, the quality of the raw material has not deteriorated, any fall in the efficiency of the machine can be attributed mainly to deterioration in the standard of training and supervision. We deal with these points in a separate part in this Chapter.

183. *Range of advancement.*—The prospect of ultimate advancement is one of the strongest factors making for a contented and efficient staff. Where a person entering a service has a feeling that he can eventually reach the highest rungs of the ladder provided that he has ability, he is likely to be more earnest and serious in his work than in a service where his prospects of advancement are confined within a narrow range. Unfortunately, by the nature of things, the distribution of staff in the various grades on the Indian Railways is somewhat like a pyramid with a large base; in other words, the proportion of staff in the lower categories is much larger than that in the higher grades; and most men, even the deserving ones, are fated to spend most of their services in lower categories.

We do not consider that there is any justification or need for introducing selection as the basis of promotion in the lower grades. Generally speaking, supervisory posts only should be considered as selection posts. The important thing is that railways must clearly lay down which posts are selection posts and whether selection to the post is to be made on a District or Divisional or on a whole line basis. In other words, there should never be any doubt whether a particular post is a selection post or a post where seniority-cum-suitability is alone to be considered. It must also be laid down clearly what categories of staff are eligible for selection to certain posts. This does not appear always to have been done in the past, particularly on the ex-Company Railways.

Under the proposals of the Pay Commission, the different pay scales include a number of 'efficiency bars'. We do not consider that sufficient importance has, in the past, been given to efficiency bars. We consider it essential that these 'efficiency bars' should actually be treated as such and that the Railway Administrations should lay down definite standards of efficiency which must be attained by each category of staff, before they are allowed to cross the 'bars'. A system of qualifying examinations or other tests might be laid down. Mr. S. Guruswami objects to 'efficiency bars' in the same scale, as he thinks that cases of inefficiency can always be dealt with by ordinary rules at any stage in an employee's career.

For promotion to selection posts in class III (Subordinate) Service, merit-cum-seniority should be the guide. The practice should be to set up

selection boards consisting of three or more officers who should conduct the selection in such a manner as to inspire confidence in the men. It is not enough that such selections should in fact be impartial and fair; the impartiality and fairness must be generally accepted. It might be advantageous in this connection to associate a representative of the staff as a non-voting observer on the selection committee. The representative should, of course, belong to a category not affected by the particular selection before the Committee.

184. *Living and Working Conditions.*—We now come to the question of living and working conditions of the railwaymen. Railways are already aware of the need for attention in this matter. For example, most railways have a programme of construction of additional houses for the staff. Of equal importance is the provision of conditions of comfort in the place of work. For example, better bathing facilities in workshops and running sheds, better lighting, better canteens which should be run on co-operative lines and be situated outside the premises, will help in increasing the efficiency and output of the workers. We have, on our tours, noticed the comparatively poor standard of comfort provided in the running rooms, particularly for the loco. running staff. We would recommend a more liberal provision of comforts in the rest and running rooms for the staff at outstations. We regard it essential that the staff should be able to take proper rest at the outstations before they start on their next turn of duty.

While we have not received any important complaint against the medical facilities now provided by the railways, we feel that in course of time further improvement in this direction is necessary, including the provision of more centres and clinics for child welfare.

185. *Subordinate supervision.*—We have been rather struck by the comparatively low standard of subordinate supervision in almost all branches except perhaps the Civil Engineering. The reasons for the deterioration are manifold. The chief cause, however, appears to be the accelerated promotion as officers of supervisory subordinates, owing to the very large increase in the temporary cadre of officers as well as the large number of additional officers needed to man the temporary organisations such as the grainshops. This has created a void in the ranks of the supervisory subordinates. Naturally, therefore, junior men have to be promoted and they lack the confidence which they need and are, therefore, inclined to look above for guidance. Then again, there is the tendency perhaps natural in the uncertain conditions of the war and the post-war period, towards a greater degree of centralised control which has accentuated this habit of looking for guidance from the top and making far too many references to the superiors.

186. *Propaganda.*—The General Manager of an important Railway has stated that "it is only by strengthening the Unions and helping the right men to run them that there can be any hope of the workers realising that their prosperity is closely bound up with the prosperity of the industry and that they can only get out of it what they put into it." We agree with these views and consider that matters can be improved only if the organised labour, led by the All India Railwaymen's Federation and supported by the various Unions affiliated to the Federation, embark upon propaganda to stimulate greater effort on the part of the staff generally. Until this is done, there is very little hope of an immediate improvement in the situation created by the so-called "go-slow" policy adopted by labour. As we have mentioned in paragraph 77 chapter IV, propaganda has proved to be the strongest weapon to make known Government's views and to secure adherence to their policies. Trade Union and other leaders can do a great deal by impressing on the railwaymen the responsibility that devolves on them. It is essential that the staff should be made to realise that it would pay them in the long run to improve and increase their efficiency, so that railways may be enabled in the not far distant future to improve conditions of service.

### C. Discipline and Appeal Rules

187. *Discipline and Appeal Rules.*—Witness after witness representing the Railway Administration have complained to us about the difficulties in the working of the present disciplinary rules and the Payment of Wages Act. One General Manager gave his opinion as under:—

“While it is agreed that the staff should feel that their rights and interests are adequately secured, it is considered that the Executive Officers should not be tied down to an inflexible and cumbersome procedure as is the case at present. The result is that there is a growing tendency for these officers to desist from taking any disciplinary action rather than go through the elaborate procedure prescribed, leading to a deterioration in discipline generally.”

While we do not necessarily endorse the views, we are constrained to remark that in any event, the procedure should enable prompt and effective action to be taken, at the same time retaining to the staff the right of appeal against unwarranted punishments. The rules at present in force specify the penalties which can be imposed by the various authorities, and lay down powers of delegation to lower authorities. So far as the Rules go, we feel that they are satisfactory and ensure that the rights and interests of the staff should be adequately safeguarded. They provide for the calling of defence from the men charged with misconduct, neglect of duty or other breaches of discipline, and giving him adequate opportunity for explaining his position. In the cases of the major punishments such as discharge and dismissal, there is provision for formal departmental enquiries. We feel that the present Discipline and Appeal Rules given in the Code are satisfactory and require no alteration. They provide adequate machinery for the punishment of offenders if the officers take the trouble to learn the rules and apply them properly.

The difficulties pointed out by the witnesses of the Railway Administrations arise largely through the application of certain sections of the Payment of Wages Act to these Disciplinary Rules. Firstly, the definition of wages includes all remuneration payable to an employee, whether conditionally upon good work, conduct or other behaviour or otherwise, and secondly, the total amount of fine imposed in any one wage period is not to exceed an amount equal to half-an-anna in the rupee of the wages payable to him in respect of that wage period. Further, no fine can be recovered by instalments or after the expiry of sixty days. Moreover, deduction for damage or loss of goods can be made from the wages only when the goods are expressly entrusted to the employed person for custody; in the event of joint responsibility fines cannot be imposed.

The effect of these provisions, as interpreted by the judgments of certain High Courts, is that the penalty of reduction to a lower post or time scale or to a lower stage in a time scale, and recovery from the pay of the whole or part of any pecuniary loss caused to Government, cannot in fact be imposed. It is understood that the Government are considering measures for making suitable amendments to the Payment of Wages Act, permitting the railway the imposition of the penalty of grade and other reduction

We, therefore, recommend that the penalties of (a) withholding of increment or promotion, including stoppage at an efficiency bar; (b) reduction to a lower post or time scale or to a lower stage in a time scale; (c) recovery from pay of the whole or part of any pecuniary loss caused to Government, should be capable of imposition by the competent authority, the powers of appeal in each case being retained, as now, to the staff. For this purpose suitable amendments to the Payment of Wages Act should be made. This would in some ways be beneficial to the staff as it is possible in present circumstances that men are being removed from service in cases where a lighter punishment would be appropriate, had the infliction of such punishment been legal.

Under the present rules, the head of the Railway has been permitted to delegate to the lower authorities the power to impose penalties, and they

can, if they so desire, delegate this authority to the immediate supervisory staff (including subordinates) to enable swift action to be taken in cases of minor irregularities.

In paragraph 77, chapter IV, we have recommended that the workshop supervisors should be vested with power to inflict prompt punishment for minor offence, subject to review afterwards, if so desired by the party affected.

Our attention has been drawn to the Appellate Tribunal recently set up by the Indian Posts and Telegraphs Department. This Tribunal has been set up as an experimental measure for a period of six months and Government's orders are that all appeals, and papers relative thereto, will be sent to the Tribunal. This will apply to all appeals preferred by Class III and Class IV staff, except appeals against orders of censure. The Tribunal will then examine the appeal and advise the competent appellate authority as to the action they recommend should be taken. Mr. Guruswami considers that similar Appellate Tribunals should be set up immediately for each Indian Railway, and their duties should be the same as those outlined above. The rest of the Committee, however, would recommend a more cautious action. We suggest that this experiment should be watched, and if it is found that this Tribunal is successful in giving an increased feeling of security to staff, without on the other hand undermining discipline, we recommend that a similar Tribunal might be started as an experimental measure at one of the main centres. This Tribunal should then be given the duty of advising on appeals against orders of punishment in case of two railways. We recommend, however, that only appeals against orders of dismissal or removal from service should be referred to the Tribunal.

#### D. Recruitment and Training.

188. *Class I (Superior) Service Officers.*—On the evidence presented to us by the various Railway Administrations, as well as by the Chairman of the Federal Public Service Commission, we are satisfied that the recruitment of all Class I Officers for the railways, should be made by the Commission and that the procedure followed by the Commission is sound. The system of training during the probationary period is also satisfactory, though we would stress the usefulness of insisting that wherever feasible and considered desirable, the probationer should be given the opportunity of carrying out independently the duties of the subordinate staff, over which he is to have control. Further, a Staff College, when established, will go a long way to provide not only useful course for the probationary officers, but to establish *esprit de corps* and a tradition amongst officers of the different railways and departments that they are all members of a great National Railway. We are glad to hear that the Railway Board have decided to set up a Staff College at Devlali for Railway Officers, which is likely to open shortly.

We now deal with the promotion of Officers. Under the present system the promotion from the junior to the senior scale is wholly in consideration of seniority, subject to certification of fitness for promotion by the head of the department. This system is not entirely satisfactory. Certain definite standards of efficiency, which must be attained by the junior scale officer before being promoted to the senior scale, should be laid down and the Officers tested before being promoted. When a Staff College is established, the junior officers should be sent to the college to pass a qualifying examination before being considered for promotion.

Promotions from the senior scale to the Junior Administrative Grade should continue as at present to be made strictly by selection. We would like to suggest that there should be a Senior Officers' course in the Staff College, where the Officers could be given refresher courses not only in matters relating to their own departments, but in those relating to other departments as well, so that such officers might have a broader outlook and be able to appreciate the difficulties and points of view of the other departments. They will then, as we have already said, be able to build up a tradition that they and the others on the Railways are the Members

of the great National Railway. This course alone should not, however, entitle an Officer to promotion to the Junior Administrative Rank, which as we have stated above, should continue to be made on the basis of selection.

In paragraph 189, we deal with a memorandum recently addressed by the Railway Board to the Central Advisory Council making certain recommendations concerning the retention of the Class II (Lower Gazetted) Service. In the course of this memorandum the Board stated that they consider that a junior scale officer should be fit to be and should normally be promoted to the senior scale at the end of about 9-11 years service. They, therefore, proposed to calculate the proportion of Assistant Class I Officers in each cadre, on an actuarial basis, in such a manner that promotion to senior scale might normally be expected between the 10th and 12th years of service. We agree with this recommendation. We consider that the junior scale posts in the Class I (Superior) Service should really be the training ground for the future holders of senior scale and administrative posts and we consider it sound that the organisation of the Class I (Superior) Service should be based on the expectation of confirmation to the senior scale after gaining experience for some years in the junior scale. We also agree that a suitable period exclusive of the probationary period would be from 9 to 11 years. This will normally include a period of about 4 years during which the Officer will be officiating in the senior scale and drawing senior scale pay.

One General Manager after another has complained that officers are today so taken up with mere routine work that they have hardly the time to attend in person to their proper supervisory duties. It is obvious that with closer supervision, personal contacts would be established between officers and their men. Such personal contacts are of great value in increasing both the efficiency and the discipline of the staff.

A number of Divisional and District Officers, who appeared before us, complained that at present they are so overburdened with mere file work that they do not have sufficient opportunity of going out on line. This, they say, naturally prevents them from maintaining direct and close contact with the men under them. Whether in an office or out on the line, we feel that this direct contact is far more important for the maintenance of morale and discipline than any amount of regulations and rules. In an administration like the railways which is concerned primarily with day to day movement of traffic, such immediate contact between officers and men is indispensable.

In spite of all the difficulties mentioned by the officers, we consider that they still can manage to establish and maintain contact with the men. On some railways the number of days each officer is out on tour every month is carefully scrutinised, to ensure that touring is done regularly and to bring to light difficulties that may be unduly restricting officer's inspection tours. We recommend that a similar check on the touring work be maintained regularly on all railways, and that the maximum amount of touring should be performed by officers.

189. *Class II (Lower Gazetted) Service Officers.*—The question of retaining Class II (Lower Gazetted) service on railways has been under the consideration of the Government for a number of years and it was last considered at the meeting of the Central Advisory Council for Railways in December 1947. The Railway Board in their memorandum summarised the relevant arguments in favour of retaining the Class II (Lower Gazetted) Service on all Indian Government Railways, as follows:—

- “(i) The basic posts in the officer cadre of all departments of Railways are those of District (senior scale) rank. The junior scale posts in Class I (Superior) Service are the training ground for future holders of District and Administrative Rank. It is, therefore, not necessary to have in the Superior Service a large number of junior scale posts than are necessary to provide officers for promotion to the senior scale after they have gained adequate experience, and without the officers having been retained in the

junior scale for such a long time as would sap their initiative and damp their enthusiasm. That would be subject to the condition that the remaining posts can all be adequately filled by Class II Officers.

- (ii) It is considered that a junior scale officer should be fitted for—and should be normally promoted to the senior scale at the end of about 9 to 11 years of service. This determines on an actuarial basis, the number of posts of Assistant Officers required in the junior scale. Any appreciable excess over this number will result in seriously retarding the promotion of officers and create discontent.
- (iii) If a number of posts of Assistant Officers can, considering the character of the work involved, be efficiently manned by persons of lower calibre than those recruited for eventual promotion to higher ranks, it would be uneconomical to include such posts in the Class I cadre.
- (iv) It is desirable to provide an avenue for the promotion of experienced and suitable men in Class III to the Officer cadre, as an incentive to good work, and to enable Railways to utilise the services of able and experienced employees in Class III, in position of greater responsibility. Such selected men, though suitable for promotion as officers in posts of minor importance would rarely be fitted to take their place in the general list of Class I Officers because of their lack of initiative and freshness of outlook possessed by the younger Class I Officers, which are essential to make a successful District or Administrative Officer."

Appointment to the class II (Lower Gazetted) Service on railways as at present is entirely by selection from Class III (Subordinate) Service. During the last few years, owing to the creation of a number of temporary officer posts and owing to shortage in the Class I cadre, the number of men holding substantive Class III appointments but officiating temporarily in Class II or Class I has been very much greater than the number required to fill cadre posts specifically reserved for promotion from Class III service. This has occasionally resulted in the promotion of men who do not come up to the standard required for Class II Services. For these reasons, the Railway Board considered that when suitable Class III (subordinate) Service men were not available for promotion to Class II, there should be direct recruitment to this class. The Central Advisory Council was in favour of both forms of recruitment to Class II Service being adopted, namely, by promotion of men in Class III (subordinate) Service and by direct recruitment. It was, however, stressed by the Council that all men in Class III who came up to the requisite standard for promoting to Class II should be considered for promotion first and the remaining vacancies only should be filled by direct recruitment.

We are particularly impressed with the arguments given by the Railway Board for the retention of the lower gazetted service, and consider that it should not be necessary to have all the Assistant Officers in the Class I (Superior) Service, as the nature of their duties is such that persons of lesser technical education can adequately discharge those duties. We, therefore, agree with the recommendation of the Central Advisory Council that the Class II Service should be retained on those railways where it already exists and should be introduced on the others. We also agree with the proposal concerning the method of fixing the number of Assistant Class I Service posts in each cadre. This we have discussed in the previous paragraph 188.

We have also considered in this connection the memoranda received from the Lower Gazetted Service Association of the E. I. Railway, as also the evidence that has been placed before us. We realise that, under the present arrangements, there is a good deal of discontent amongst the Members now forming part of Class II (Lower Gazetted) Service. The reasons

which the E. I. Railway Association gave for the abolition of the Lower Gazetted Service are:—

- (a) The service is paid on a lower rate of pay than the Junior Scale of Superior Service.
- (b) The scope of advancement to the junior scale is limited.
- (c) The duties and responsibilities are still identical to those shared by the Junior Scale Officers and that Lower Gazetted and Junior Scale posts are interchangeable.
- (d) There being no Lower Gazetted Service on B. B. & C. I. Rly., S. I., B. N. M. S. M., and O. T. Railways, all promotions in these Railways were made in the Junior Scale.

Since these officers are those that have rendered faithful and efficient service in the Class III (Subordinate) Service, it is a matter of importance that something should be done to remove the discontent among them. The present practice of reserving 20 per cent of the vacancies in Class I Service for promotion from Class II and Class III Services has not proved attractive. We have, therefore, considered various proposals in this connection, and are of the opinion that the best way of dealing with the matter would be to reserve a certain proportion of the working posts in the Senior Scale for the promotion of men from the Class II (Lower Gazetted) Service. We think that 25 per cent of the Senior Scale posts should be so reserved. The members of the Class II Service, will then have a reasonable number of posts clearly reserved for them, to which they can seek promotion if duly qualified, and will thereafter have an opportunity to reach the administrative grades by the process of selection. It would be seen that our proposal envisages the reservation of a specific number of senior scale posts in each cadre of each Railway to which Class II Officers, who are suitably qualified will be promoted. This, we believe, will prove to be a more attractive and more definite avenue of promotion than the present system under which 20 per cent of the vacancies in Class I are allotted to officers in class II (on an All-India basis). At present such officers when promoted from class II to class I, are still in the junior scale, though the rules provide for them receiving such seniority as frequently enables them to reach the senior scale before they retire. As regards officiating appointments, the present rule is that the Officers in Class II or the Class III staff officiating in Class II are not allowed to officiate in senior scale posts unless there is no Class I Officer available, who has been certified as fit to act in the senior scale. If our proposal as regards the reservation of 25 per cent of the posts in the senior scale for the promotion of duly qualified officers of class II is accepted, we would recommend that the existing rule should apply in the case of officiating vacancies in the 75 per cent of posts reserved for promotion of Class I Officers from the junior scale. Temporary vacancies occurring in the posts reserved for the promotion of Class II Officers would normally be filled by officiating promotion of other Class II Officers, provided that suitably qualified men were available. We might repeat here that the promotion to officiate in the senior scale in any case will be subject to passing the same qualifying examination or test as we have suggested for Class I Officers. As this will reduce the number of senior scale posts available to Class I Officers, it will be necessary also to reduce correspondingly the number of Class I junior scale posts in each cadre.

The Central Advisory Council recommended that all men in Class III (Subordinate) Service who came up to the requisite standard for promotion to Class II (Lower Gazetted) Service should be considered for promotion first, and that the remaining vacancies only should be filled by direct recruitment to Class II Service. We agree with this recommendation, as this will ensure to as many men of Class III (Subordinate) Service as are suitable, adequate prospects of promotion. We also agree with the Council that where direct recruitment to Class II (Lower Gazetted) Service is required, the selection should be made by the Federal Public Service Commission.

**190. Recruitment and training of Class III (Subordinate) Service staff.**—We may now take up the question of Class III (Subordinate) staff



who represent the back-bone of the administration and serve as a link between the directive agency of the officer and the vast body of railwaymen at the bottom. We have already had occasion to mention the unsatisfactory standard of supervision that obtains now in most of the departments, and the reasons for the deterioration. The selection of men to this class of service and their subsequent training is, therefore, a matter of great importance. At the same time, it must be recognised that the more deserving of the Class IV employees should also have avenues of promotion not only in their own class but also to the higher class (Class III), in the same way as we have pressed for avenues of promotion for the Class III employees to Class II and for Class II Officers to Class I. We have, therefore, to consider recruitment to the class III Services in two ways; direct recruitment and by promotion from Class IV Services. We take direct recruitment here.

Until the appointment of the Joint Service Commissions, the recruitment was being made by the railways themselves and they had their own Selection Committees and their own rules as to the weightage to be given to the sons and near relations of Railway employees. Later on, the subject of weightage to sons and near relations of Railway employees was considered by Government and it was decided that the number of additional marks that should be given to the sons of railway employees should be restricted to 10 per cent of the marks obtained by them. The actual result of this method has been that very few sons of railway employees have been able to enter the Class III service, and the original intention of having a fair proportion of the sons and near relations of railway employees in Government Service has not been achieved. The evidence on the desirability of recruiting a larger proportion of the near relations of railwaymen for railway service is strong, and we consider that in the lower grades, it would be definitely advantageous to give preference to sons and near relations (restricted to nephews) of railway employees, subject, however, to the maintenance of a good standard. We, therefore, recommend that, subject to suitably qualified candidates being available, not less than 10 per cent of the vacancies in each category in Class III should be reserved for the sons and nephews of railway workers who have rendered efficient railway service for a period of not less than 15 years.

191. *Machinery for recruitment to Class III.*—In the past, recruitment to the Class III services has been through *ad hoc* Selection Committees formed from time to time which perhaps did not always pay that attention or devote the time which was necessary for proper selection. The objection to the system was that the method did not give to the candidates that sense of assurance which it was intended to provide, and the procedure of many of the Selection Boards was not such as to inspire confidence. For these reasons and also to ensure that the interests of the Minority Communities were safeguarded, it was decided, as a result of Mr. Frank D'souza's report on Minority representation in railway services, to establish Railway Service Commissions and the first one was formed on the N. W. Railway in July 1942. Later towards the end of 1943, four more commissions came into being with headquarters at Calcutta, Bombay, Madras and Lucknow. The arguments advanced in favour of the proposals were that such Commissions would release departmental officers from the tedious and often long drawn out proceedings attendant on sitting frequently on Selection Boards. This would thus, enable officers to devote more time to their legitimate departmental duties. The procedure of selection and the wider scope of the Commission's activities would, it was expected, provide opportunities for securing the best material available and minimise the charge of nepotism that had often been raised in the past.

We have received complaints that these Commissions have in fact not served the purpose which the railway had in view: interviews are said to be perfunctory, where a large number of candidates have to be interviewed; the time given to each is, perhaps, a minute or two, and it is difficult to believe that the Commission can form a proper idea of the ability of the

candidate from such casual interviews. It has also been argued by some officers that they should have the responsibility for selecting their own instruments. Whatever time is taken by the recruitment of subordinates should be regarded as time well spent by officers in performing their own essential duties.

We have given considerable thought to this problem. We are aware of the decision of the Government of India to establish a Central Subordinate Service Commission to recruit to all posts in Class III and IV Central Services, excluding those relating to railways, which are filled separately by direct recruitment. We consider that the weight of reason is on the side of an independent authority for the recruitment of Class III employees but we do not consider it necessary at this stage to extend the principle to Class IV employees.

As indicated above, there are four Joint Railway Service Commissions with headquarters at Lucknow, Calcutta, Madras and Bombay. The composition and strength of the Commission is given below:—

- (a) The E.I. and O.T. Railways' Joint Service Commission at Lucknow consists of a Chairman, who is an ex-railwayman, and three Members of whom two are ex-railwaymen and one is a retired District and Sessions Judge.
- (b) The B.N. Railway Commission, Calcutta, consists of a Chairman, who is a retired railwayman, and a Member, who is a retired Director, Public Instructions.
- (c) The B.B. & C.I. and G.I.P. Railways' Commission, Bombay, consists of a Chairman, who is an ex-railwayman, and four other Members, three of whom are ex-railwaymen and one a retired Magistrate and Collector.
- (d) The M.S.M. and S.I. Railways' Joint Service Commission, Madras, consists of a Chairman, who is an ex-railwayman, and four other Members, of whom two are ex-railwaymen, one a retired District and Sessions Judge and one a retired Forest Officer.

The total expenditure on these Joint Service Commissions is understood to be over Rs. 10 lakhs per annum and, on the basis of the number of Class III (Subordinate) staff on the railways and taking 5 per cent as the average annual intake, the number of men to be recruited in a normal year is not likely to exceed 8,000. The cost of the recruitment of one Class III employee, therefore, comes to Rs. 125. This is a very high figure. We have considered various alternatives to reduce this expenditure and we make the following suggestions:—

- (i) The work of selecting Class III staff on the Railways should be transferred to the Agencies to be set up by the Ministry of Home Affairs, or alternatively.
- (ii) The number of Railway Commissions should be reduced and the number of members of each Commission should also be reduced

We are not aware of the total number of Class III employees that are likely to be recruited through the Agencies appointed by the Home Ministry for Ministries other than the Railway, but we think that the number will be much less than the number to be recruited on the railways. If Regional Commissions for the appointment of Class III and IV staff to the Services are set up, we suggest that it should be possible for these Regional Commissions to recruit Class III Railway staff as well. The financial implications will, of course, have to be considered but we should anticipate that a saving in expenditure will result. If, however, Regional Commissions are not likely to be set up, we should not recommend the transfer of the work of the selection of the recruits for the Railways to the Central Commission, and in that case our second suggestion alone remains for consideration.

The number of subordinate staff on the various railways is indicated in the table given below:—

TABLE 13. 1946-47

Railway	Upper Sub-ordinates	Lower Sub-ordinates	Total
B. B. & C. I. . . . .	1,128	28,607	29,735
G.I.P. . . . .	1,518	22,961	25,479
Total B.B. & C. I. & G.I.P. Rlys.			55,214
E.I. . . . .	2,192	34,743	36,935
O.T. . . . .	238	9,468	9,706
Total E.I. & O.T. Rlys.			46,641
M.S.M. . . . .	326	14,124	14,450
S.I. . . . .	365	13,412	13,777
Total M.S.M. and S.I. Rlys.			28,227
B.N. . . . .	1,813	19,260	20,403

The above figures tend to indicate that the work of the Bombay Commission should be heavier than that of any other Commission, the Lucknow and the Madras coming next. The work of the Calcutta Commission would be the lightest. We consider that it is possible to abolish one of the Commissions and to have only three, one at Calcutta, one at Bombay and one at Madras. In that case, the Calcutta Commission will have to take over the work of the three Railways, the E. I., O. T. and B. N. Railways. We recommend the abolition of the Joint Commission at Lucknow, as the majority of men to be recruited will be for the E.I. and B.N. Railways and Calcutta would be the most suitable place for its headquarters.

Coming now to the strength of these Commissions, we think that it is unnecessary to have more than three Members in all, including the Chairman, who should be selected from among the railway officers who have held administrative appointments for some considerable period before retirement. If officers of this status are not available, it will be necessary to recruit other ex-Government officers who have held, while in active service, posts of similar responsibility.

The pay of the Chairman is fixed at Rs. 2,000 per month and that of the Members at Rs. 1,500. In addition to this pay, they are eligible to draw any pension that they may be in receipt of or become entitled to. We consider the pay of the posts to be commensurate with their responsibilities. Under the existing rules, an officer chosen for the post of Chairman or Member of a Commission has to retire finally for all purposes from railway service from the date he is to take up the appointment, and he also forfeits all leave earned during permanent service. It has been represented that the last condition makes the post unattractive to the senior men. We do not entirely agree with this and consider that our recommendation under which non-railwaymen might be appointed if suitable railwaymen are not available would widen the sphere of choice and that it should be possible to obtain men of proper experience to fill these posts. If, however, men of the requisite qualifications are not available and officers who have not held administrative appointments for any considerable period have to be appointed to these Commissions, we feel that there is no case for keeping the pay of the posts at Rs. 2,000 for the Chairman and Rs. 1,500 for the Members, and that Rs. 1,500 for the former and Rs. 1,000 for the latter should be adequate.

We recommend that the Regional Central Service Commission or the Joint Railway Service Commission must make their selections not only at their own headquarters but also at Provincial Capitals other than their

headquarters, so as to give candidates of all provinces concerned opportunities of being interviewed by the Commissions, without incurring travelling expenditure which in some cases may be prohibitive.

Our attention has been drawn to one of the functions of the Service Commissions under which they are required to advise the administrations in the matter of those appeals from Class III (Subordinate) staff which lie to the General Managers, and that this work has been entrusted to them as an experimental measure for a period of one year. While we have no objection whatsoever to the advice of this impartial body being taken by the administrations, we do not agree that this should be a reason either for an increase in the number of Members or for making it incumbent that one of the Members must be a person with judicial experience. If, however, Appellate Tribunals later come into existence, this function of the Service Commissions will cease. We have dealt with this subject in paragraph 187.

*192. Training of Class III Staff.* After Class III (Subordinate) staff have been recruited, the question arises of their training, particularly of those who are recruited to fill technical posts. There is provision for some form of training on all railways, but from the evidence before the Committee it is clear that on railways where there are no proper training schools the standard of training is not very satisfactory. At present, the E. I. and the G.I.P. Railways have their own schools at Chandausi and Jamalpur and Bina respectively. We recommend that on railways where there are no proper training schools, these should be established with the minimum delay.

In Paragraph 79, Chapter IV of this Report, we have already commented on the problem of training of apprentice mechanics. The training schools recommended by us can only impart theoretical training and every railway should, therefore, make out a detailed syllabus for the training of subordinates, both on the practical side and on the theoretical side, the practical training being given on the line. It is only when theoretical and practical training are combined that proper results can be achieved.

We consider that a great improvement in working can be effected by providing facilities for training to the non-technical staff. They are appointed fresh from school or college and they pick up the work by experience. This not only makes their training inadequate but also involves a great loss of time. The strength of a chain is measured by its weakest link, and in the case of the Ministerial staff, the presence of weak members retards the progress of abler ones at every step. Once the process of slowing down of office routine begins, it becomes very difficult to restore efficiency. Besides, the presence of this type of untrained staff puts an undue burden upon the abler and more conscientious members. From every point of view, therefore, an initial period of training, say, for three months, during which a newly appointed clerk would familiarise himself with the Codes, Rules and Regulations, as well as the practice of preparing office notes and reports, would, we consider, be time well spent.

These Training Schools should have Refresher Courses also so as to refresh the knowledge of Rules and Regulations, etc., of the subordinate staff from time to time. There should also be promotion courses which would incidentally help in selecting men to selection posts.

*193. Recruitment and Training of Class IV Staff.*—We now come to the question of recruitment and training of the Class IV staff. The difficulties in recruiting them should not normally be very great. In many cases occupation runs in families. In the case of unskilled labour, there has not till now been much difficulty in getting a sufficient number of recruits. Their training has not been a problem as the men could pick up the work in the course of a week or so. This has encouraged a spirit of complacency and prevented the railways from making any effort to improve the efficiency and skill of such men. Some difficulty was felt during the war when there was shortage of labour in every industry, particularly in certain areas. The training of artisans is dealt with in Paragraphs 79 and 97, Chapter IV.

We consider that there cannot be a general all round improvement in the working of railways unless the general level of intelligence and literacy even among the unskilled workers is raised. We might here mention that we have come across cases even among the most illiterate men of great devotion to duty but our remarks apply to the Class IV staff in general. For this purpose, the most important thing would be the spread of education amongst labourers of every type. This has been realised in the Army where now every soldier has to be literate.

The problem of the education of the labourers is not primarily a responsibility of the railways, but at the same time the Committee feel that the railways can do a great deal towards the solution of this national problem. Almost a million men are employed in the railways and more than two-thirds of them are employed in class IV. If the railways can contribute towards the education of this vast body of men, it will act as a quickening force that will spread its influence far outside the ranks of railway employment. We recommend that a lump sum literacy bonus should be paid by the railways to men in the lower categories for the acquisition of literacy in the lingua franca, when one is decided upon. This would serve to break their present inertia and move them to efforts to acquire literacy.

We deal now with the question of the promotion of men belonging to Class IV services. As we have said in previous chapters, we consider that regular and wide avenues of promotion should be provided for deserving men belonging to these services and with this end in view, we recommend that, as a general rule, the educational qualifications and age restrictions for the purpose of recruitment to any category of class III service should be relaxed in the case of those who are already employed on the railways in class IV and have rendered satisfactory and efficient service. The recruiting authority should consider them, if qualified, for promotion to class III. Where the minimum qualification is the passing of the Matriculation Examination, the relaxation with regard to educational qualification might be extended to those who have passed, say, the 8th standard (the 10th being the Matriculation class).

We do not recommend the reservation of any particular proportion of vacancies in Class III for being filled by Class IV staff, as much would depend on the availability of suitable candidates. In this connection, we would draw attention to what we have stated in Chapter V in the case of promotion of class IV Yard staff to the post of Number Taker and Head Number Taker. It is possible that there are other categories of staff of similar type which should also be treated in the same way as we have recommended for the yard staff.

### E. Organisation

194. *Personnel Organisation.*—In the course of evidence tendered before us it has been suggested that owing to the growing complication of the Establishment Code and the increase in the number of references arising from greater consciousness on the part of the staff, Personnel work has increased to such an extent as to make it desirable to create a separate Personnel Branch which will involve a greater degree of centralised control. The advantages claimed in favour of such an arrangement are that it would relieve the executive officers of the burden of attending to the routine part of personnel work, such as, leave applications, issue of passes, etc., and at the same time create a small body of specialists who would be thoroughly conversant with personnel work and would be able to deal with all such matters more expeditiously than an overworked and harassed executive officer.

There is, however, also a different point of view represented before us, which was probably in many ways stronger. Evidence showed that such centralisation of personnel work would take away from the officers a valuable opportunity of helping their men and keeping in touch with them. It is these small matters, such as the sanction of leave, issue of passes, etc., that bring the executive officer into normal human contact with his men. It has also been suggested that the work connected with the Personnel Branch is after all not quite as technical or difficult as has been

represented at times. District Officers have in the past been able to cope with such matters and could do so in the future as well.

Generally speaking, on railways with a divisional system the personnel work is centralised not only in the headquarters office but in the various divisions. For example, on the E.I. Railway, there is a separate personnel branch in the headquarters office under the direct control of the Deputy General Manager, Personnel, with a number of senior and junior scale officer and him. On each division also there is a Divisional Personnel Officer and his assistants. The only other railway where a complete divisional system is in force is the E.P. Railway. Here too, there is a Personnel Unit in the Headquarters Office and Personnel Officers on the two divisions. On the other railways, namely, the Assam, B.N., P.B. & C.I., G.I.P., M.S.M., O.T. and S.I. Railways, which are organised departmentally, the centralisation of personnel work has not gone to the same extent, though every head of a department employing a large number of men has a personnel assistant. Some of these railways have, however, attempted to centralise work in the headquarters office, though in every case the District Officers do their own personnel work.

On railways where the personnel work on the districts is done by the District Officers, we have received no complaints that the work is not efficiently done. On the contrary the departmental officers are in favour of it and feel that this enables them to keep in touch with their men and remove their petty grievances promptly.

On the balance of the evidence presented before us we are inclined to hold the view that where personnel work has not been centralised no attempt should be made to do so. On Railways with a divisional system, it may be convenient to have a centralised personnel organisation in the Headquarters, but on the divisions, we think that it is desirable to have decentralisation of personnel work within the framework of the Divisional Organisation.

We, therefore, recommend that:—

- (1) On railways run on a departmental system each head of department should continue to have a small office dealing with personnel matters. On the districts, it is not necessary to have a personnel officer except on the larger ones where an assistant officer might be provided to work under the District Officer. Subject to this, each District Officer should continue to do his own personnel work.
- (2) On railways run on a divisional system, the concentration of personnel work in the headquarters office can be retained. On the divisions, however, the major part of the personnel work should be decentralised and made over to the Divisional Officers, but the Divisional Superintendent may retain a small unit under an assistant officer, who may act as his personnel assistant, and advise him in personnel matters, such as appeals, and also be in executive charge of the working of some of the centralised sections of the Divisional Office, like the Bill Section. The executive officers will have executive authority over the out-door staff and be responsible for the maintenance of all service registers, lists for grade promotion on due dates, seniority and selection lists, leave rosters, and pass records.

**195. Joint Standing Machinery for settlement of Trade Disputes.**—There is unfortunately wide-spread labour unrest at the present time, owing to difficulties which we have dealt with earlier in this chapter, many of which are inherent in the present situation. We have given considerable thought to this problem and have recommended certain long-term measures to improve the morale of the staff. We, however, consider that until the relations between labour and the administration improve considerably, all these measures will not produce the results we desire. One solution that suggests itself to us is the introduction of a machinery for dealing with industrial relations on railways which will provide for the constitution of a Joint Standing Board on which the Administration and the Railwaymen should be represented. The Industrial Truce policy

of the Government of India requires that disputes should be settled amicably; where negotiations fail, there should be conciliation. The labour representatives, whom we interviewed, believe that the Government of India have failed to implement their own policy, and we feel that this belief is not without some justification. We, therefore, consider that at the present time the establishment of a machinery like that referred to above is a matter of importance and should be favourably considered by Government.

We understand that in order to secure maximum production, the Government have in view the constitution of Joint Production Committees for the various Industries. We support this view and think that co-operation on these committees between the representatives of the railways and of such trade unions as have accepted the Industrial Truce policy of Government, would be beneficial. This matter should be taken up by Government without avoidable delay.

## CHAPTER XI

### RESEARCH

196. The Pope Committee, the Wedgwood Committee and the Pacific Locomotive Enquiry Committee stressed the importance of research to the Indian Railways. The Wedgwood Committee in paragraph 89 suggested for consideration "whether the scope of the research organisation might not with advantage be extended to cover practical experiments on a wider scale than hitherto, in particular with reference to the trial of new materials and methods under ordinary railway working conditions. We believe there is much to be done in this respect if the scheme is boldly initiated and that considerable economies can be realised which will more than cover the expense of the additional staff required." When this Committee reported, the research branch of the Central Standards Office was devoting its attention mainly to questions of track stability under lateral forces. The Pacific Locomotive Committee in their report published in 1930 drew particular attention to the importance of research and stated that "the value of such an organisation to undertakings of the size of Indian Railways would be incalculable." The Committee rightly paid a tribute to the valuable work which had been done by the Standards Office but said, "we feel that progress is hampered by an organisation inadequate to deal with the many problems which affect safety, comfort and economy and which require careful investigation, testing and analysis. No undertaking of the size of the Indian Railways can afford to be without a properly organised and active research section fitted to give authoritative opinions on these matters."

We, wholeheartedly, endorse these views and from our knowledge and observation of the working of Indian Railways, can confidently state that a vast field of research lies entirely unexplored and that investigations wisely directed and effectively controlled would provide solutions to railway problems which would result in increased efficiency and large economies. Our report contains a number of references to such problems which await solution through research.

The necessity for research and its importance to the Indian Railways have been recognised by the Railway Board. We find that during 1946, the posts of Deputy Chief Controller, Research, and of three Research Officers for the Metallurgical and Chemical, Electrical and Mechanical, were sanctioned. Research was restricted during war. On the conclusion of hostilities, the staff was expanded and the organisation now consists of the following sanctioned posts:—

Chief Controller of Standardisation,

Deputy Chief Controller, Research.

Six Research Officers (Civil, Mechanical).

(Metallurgical and Electrical) with Foremen, Inspectors and Assistant Inspectors and other staff.

A test track and nucleus of a laboratory for testing railway rolling stock and equipment have been constructed and are in operation at Shakurbasti near New Delhi. A programme of research for the next 12—15 months has been drawn up covering trials of the riding qualities of specified types of locomotives and coaching and goods stock and measurement of the stresses produced by these locomotives with a view to improving their design. The insulation tests on the new all steel coaching stock are designed to find out the best insulating material for these coaches to suit Indian conditions. The trials on the stresses on wagon underframes and roofs and in new light-weight coaching stock are being made to develop economical designs in which maximum economy in steel can be effected. The Dynamometric research is concerned principally with attempts to



burrr. non-coking coal efficiently with a view to reducing the use of metallurgical coal on Indian Railways. Tests on mechanical stokers, injectors and other auxiliary equipment, the desirable degree of superheat, and the rating and performance of locomotives are subjects for research for increasing economy and efficiency in operation and are included in the programme. On the Civil Engineering side, the programme of research includes special aspects of bridge design, and track stresses. Research on the latter will enable track standards to be revised. Building research is expected to lead to the designing of cheap constructions and investigation into soil mechanics will lead to the stabilisation of embankments and rationalisation of the design of building foundations and retaining walls. Other subjects too are included in this programme which thus covers a wide field.

In addition to the Central Organisation described above and its programme, individual railways have limited facilities for research chiefly on the metallurgical and chemical side. In regard to facilities outside the railways, the following research institutes are either in existence or are under consideration :—

National Physical Laboratory, National Metallurgical Laboratory,

National Chemical Laboratory, Coal Research Institute,

Indian Institute of Science, Bangalore, Forest Research

Institute, Building Research Institute, Road Research

Institute, Glass and Ceramic Research Institute, Poona

Hydraulic Research Station.

In addition, there are laboratories attached to the different Indian Universities.

The Railway Board appreciate the inadequacy of the present Railway Research Organisation to fulfil the essential needs of the Indian Railways. We understand that they have been handicapped in developing the organisation by the general shortage of technical man-power. In order, not to delay the setting up of a nucleus organisation for the co-ordination and direction of research, the Board have recently appointed a full time officer of the status of a Joint Director in the Board's Office, who will work under the Member, Engineering. The Board also have in mind the setting up of an Advisory Committee under the chairmanship of the Chief Commissioner, which will include a scientist as Director of Research, representatives of the important laboratories and scientific research institutions already set up by the Government, such as the National Physical Laboratory, the Council of Scientific & Industrial Research, etc., a scientific adviser, and technical railway officers. This Committee will advise the Board on the methods of dealing with specific subjects and the lines of research which can be undertaken with advantage in the various institutions in the country. These undoubtedly are developments in the right direction, but the whole scheme is still in the planning stage. In view of the extreme importance and indeed urgency of this problem, we consider that plans for the development of the organisation should be taken a step further and that definite decisions should be reached in regard to the setting up of the organisation, the extent and the quality of staff to be recruited, the nature and type of the buildings and equipment required. The Board should take energetic action to implement any decisions that may be arrived at.

We are aware that the implementation of these decisions will take time and we are, therefore, all the more anxious that this should not delay research into some of the more urgent problems which are clamouring to be solved. As already stated an organisation exists for undertaking research into problems of Civil & Mechanical Engineering, and what is required is that this organisation should be sufficiently strengthened and expanded so that it may be able to tackle these problems with vigour and speed. The special officer appointed by the Board should ensure that railway research is not duplicated and that all work which can best be done by national or

university laboratories and institutions is framed out. In suitable cases, full advantage should also be taken of the facilities existing on individual railways in following up the lines of investigation laid down by the Railway Central Research Organisation. This department might require observers for the direction and co-ordination of these investigations.

We strongly feel that the Central Railway Research Organisation should develop chiefly on evolutionary lines and should, therefore, be expanded in the manner and to the extent which actual experience shows to be necessary. In our anxiety to see the development of research work progress rapidly in India, where it had been comparatively neglected in the past, we should not go to the extreme of insisting, at the start, upon costly buildings and laboratories before we have built up a satisfactory organisation capable of making full use of such equipment. For this purpose, the recruitment of personnel would have to be done with the greatest care. In this connection it should be remembered that an officer however capable he may be, does not necessarily make a successful research officer. The latter needs training and experience and special qualities of initiative and temperament. We are convinced that there is no dearth of suitable material in India, but the selection and training should be taken in hand now. There is already a nucleus of promising personnel in the Research Branch of the Central Standards Office. We should give every encouragement to such specially qualified men for study and training in research abroad and the prospects in the Research Department should be made specially attractive not only to secure recruits of the right type but to retain men of exceptional ability and initiative in this line.

We have already stated that research work should not be duplicated in the Railway Research organisation and for this reason we consider that, generally speaking, fundamental research should not be undertaken by the railway except for exceptionally adequate reasons. It will be essential that the railway research organisation should provide for intimate liaison with all the research bodies in India including University laboratories and should also have effective connections with well known research bodies pursuing similar investigations in other countries. We note with satisfaction that the Standards Office is building up a valuable reference library by securing the publications of the Association of American Railroads, journals of the institutions of the Civil & Mechanical Engineers and Locomotive Engineers, the British Non-ferrous Metals Research Association, and the British Cast Iron Research Association, books of the American Society for testing materials, National Physical Laboratory reports, international Railway Congress Bulletins, etc., etc. This is satisfactory as far as it goes, but it does not go far enough. What is required is human contact and liaison with some of the active members of these bodies for a general discussion of the common problems on the lines of investigation chalked out for special research. There may be subjects where associated investigations might be of mutual advantage. What we are advocating is a policy of active and progressive research including readiness to seek for assistance or association from outside bodies best fitted to give such help.

## CHAPTER XII

### CENTRAL CONTROLLING AUTHORITY & RAILWAY ORGANISATION

#### A. Central Controlling Authority

197. *Setting up of a Statutory Railway Authority.*—We consider now the very important question of the form that the Central Controlling Authority for the Railways should take. The object, as we see it, is to devise a form of Central Control best suited to develop throughout the Union of India, an efficient, adequate and economical system of Railway Transport for passengers and goods, with due regard to the interests of its staff and to the safety of operation. This may be otherwise more shortly expressed by saying that the railways should be run on business principles.

The conditions required to ensure this are, briefly, that the Central Controlling Authority should be in a position to decide on and carry through long term schemes for the development and improvement of the railways and also to make decisions on all matters affecting the railways with reasonable promptitude.

The present controlling authority, the Railway Board, does not, in our opinion, meet these requirements. The Board is now not only the supreme Union Railway Executive, but is also part of the Secretariat of the Government of India. It is not, therefore, the sole policy-forming authority, as other Ministries have frequently to be consulted before decisions can be reached. Consequently, decisions are often unduly delayed, and the steady pursuit of any long term policy scheme is rendered very difficult. Further, railways are now exposed to undesirable interference in their day-to-day working.

These defects are inherent in the present organisation for the control of the railways. We do not in any way blame the Members of the present Railway Board, who are doing their best to surmount the difficulties that arise from these inherent defects.

The course that we recommend to overcome these defects is the one that has found general favour in other democratic countries, that is, the vesting of the control and management of the Union Railways in a Statutory Corporation. In order, therefore, to provide for more efficient central control, we suggest the setting up of a Union Railway Authority. We do not, however, recommend any immediate action in this direction. Following the old saying concerning the inadvisability of changing horses in the middle of a stream, we feel that it would be a mistake to make such a fundamental change until present rehabilitation programmes are, at least, well advanced. The Railway system should, if possible, be handed over to the Authority as a sound going concern. The present situation on the railways is certainly far from satisfactory, but is not so serious as to call immediately for desperate remedies. Further, there would have to be a considerable interval, probably from six to twelve months, between the date of the introduction into Parliament of the Bill setting up the Authority and the date when control would be actually transferred to the Authority. During this period there would inevitably be considerable hesitation about taking important decisions regarding the Railways, though a desire not to commit the Authority in advance to lines of policy with which they might not agree. This would be a very serious matter at present, but, we hope, will not be so serious in a few years' time if present rehabilitation plans mature. Lastly, we doubt the propriety of suggesting the making of such a vital change, involving the handing over of very great power to a body which, though selected and appointed by Government, would not be under the direct control of the Legislature, until the new Constitution has been passed and elections have been held, so that the Bill setting up the Authority may be enacted by a Parliament elected under the new Constitution.

The timing, as we have said, must depend on the progress of rehabilitation on the railways and, perhaps, on economic developments in the country, but we have in mind an interval of five years from now. In other words, we suggest the introduction of the Bill into Parliament early in 1953 and the vesting of the railways in the Authority at the beginning of 1954.

We feel, however, that although we are not recommending any immediate change, the proposal to set up a Union Railway Authority is such an important one that our recommendation would be incomplete unless we set out, in some detail, our views as to what the composition and powers of the Authority should be, and to what extent and how, Parliamentary control over the Authority should be exercised.

We desire to make it clear at the outset that we are not proposing the setting up of a Federal Railway Authority of the kind envisaged in Part VIII of the Government of India Act 1935. The underlying intention of this section appears to have been to make the Railways a Reserved Subject in the context of a Dyarchic Central Government. Such a suggestion would clearly be entirely inappropriate now. While, therefore, some of our proposals are, inevitably, somewhat similar to certain provisions in the 1935 Act, the object is different, and we have in fact, in framing our proposals, drawn more freely from Acts passed in other democratic countries than we have from the 1935 Act. We have, in particular, studied the British Transport Act of 1947, the Belgian National Railway Company Act of 1926, and also the recently passed Damodar Valley Corporation Act. We have also seen the Australian Commonwealth Railways Act, the Queensland Railways Act, the New South Wales Transport Act and a memorandum concerning the Constitutional position of the South African Railways, which was kindly supplied to us by the South African Railways and Harbours Administration.

The Bill setting up the Authority would, in fact, constitute the Authority as a body of Trustees in whom the whole of the Union Railway property would be vested, and would charge them with the responsibility of managing, operating and developing the railway system in the National interest. This 'charge' clause might be somewhat in the form we have already suggested: "The Authority shall develop through out the Union of India an efficient, adequate and economical system of Railway Transport for passengers and goods. They shall have due regard to the interest of Agriculture, Industry, Commerce and the general public, and to the interests of their staff, and to safety." However it might be worded, this 'charge' would have to bring out the triple responsibility of the Authority: to the Union as owners, to the public as users, and to its staff in accordance with Article 34 of the Draft Constitution; "The State shall endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities."

**198. Composition of the Authority.**—We suggest that the Authority should not be a large body. The inclusion of a large number of persons would not only increase the expense but would tend to slow up the conduct of business: also it might be difficult to find any large number of persons with the necessary qualifications who would be willing to spare the time. We recommend a Chairman and six Members, all of whom would be selected and appointed by Government from among persons who have had wide experience and shown capacity in transport or agriculture, industrial, commercial or financial matters, in administration or in the organisation of workers, or persons who have special knowledge of economic problems, or who have specially studied the needs of railway users. We consider that the Bill should lay down that the Members should definitely include one person 'who has shown capacity in Financial matters', and who would be appointed by the Finance Minister, and one person 'who has shown capacity in the organisation of workers'.

We suggest that some of the Members should be whole-time and some part-time. In view of the size of the country, it might be difficult, in spite of the availability of air transport, to arrange meetings of the entire Authority more frequently than once in three weeks or once a month. It would, therefore, be necessary to have a small body in permanent session to give day to day decisions. We recommend that the Chairman and at least two Members should render whole-time service, and that one of them should be the Finance Minister's nominee. We suggest that the term of appointment should be five years, but that in the first instance, some of the Members should be appointed for three: for the sake of continuity of

policy, a complete change in the personnel of the Authority should be avoided. The Bill would also provide for the removal of Members of the Authority: this might follow the procedure laid down in Article 103(a) of the Draft Constitution for the removal of a judge of the Supreme Court.

The Bill should exclude certain persons from the membership of the Authority. We suggest that the lines of Section 4 (2) of the Damodar Valley Act might be followed. The Section reads:—

“A person shall be disqualified for being appointed, or for continuing as a member of the Corporation—

- (a) if he is a member of the Central or any Provincial Legislature;
- (b) if he has, directly or indirectly, any interest in a subsisting contract made with, or in any work being done for, the Corporation, except as a share-holder (other than a director) in an incorporated company.”

We consider also that serving Railway Officers should be disqualified, though there would be no objection to the appointment of a retired Railway Officer; in fact, such an appointment might be valuable.

199. *Residuary Powers of Government*.—The most difficult, and probably most contentious, section of the Bill would be that defining the powers of the Authority. If the Authority is to be of real value and in a position to discharge the responsibilities that we have set out above, it must be vested with very wide powers to enable it normally to make its own decisions, and follow out its own line of policy without interference from or reference to Government. But there must be a limit somewhere: Parliament cannot surrender ultimate control. All the Acts that we have studied include limiting clauses, both specific and general. That is to say, there are certain matters on which the Statutory Body concerned has to obtain prior sanction from either the Minister or Parliament, and there is also general provision for giving to the Minister the power to “give direction”. As regards the general power for ‘giving direction’, we should recommend, following the lines of Section 4(1) and Section 4(7) of the British Transport Act 1947, which read as follows:—

S. 4(1) “The Minister may, after consultation with the Commission, give to the Commission directions of a general character as to the exercise and performance by the Commission of their functions in relation to matters which appear to him to affect the national interest, and the Commission shall give effect to any such directions.”

S. 4(7) “. . . the Commission shall, as soon as possible after the end of each financial year of the Commission make to the Minister a report on the exercise and performance by them of their functions during the year and on their policy and programme, and the Minister shall lay a copy of every such report before each House of Parliament. The report for any year shall set out any direction given by the Minister to the Commission during that year unless the Minister has notified to the Commission his opinion that it is against the interests of national security to do so and shall include a statement of the salaries or fees and of the emoluments of each of the members of the Commission during that year.”

Briefly, under these provisions the Minister is invested with power to ‘give direction’ in matters affecting the national interest, in addition to his other specific powers of control laid down elsewhere in the Act, but such direction is only to be given after consultation with the Commission. Further, each instance of direction has to be included in the annual report to Parliament, so that the Minister would be exposed to criticism if he should ‘give direction’ on a matter which the House might regard as not being of sufficient importance to be regarded as “affecting the national interest”.

The Report referred to above has to include not only a general review of the activities of the Commission but also details of their policy and programme for the future. This should afford an opportunity for an expression of opinion by Parliament on the policy of the Authority and it is to be presumed that a resolution of Parliament criticising the policy or programme of the Authority would have considerable weight with the

Authority even if the resolution was not of such a nature as to force the Minister to 'give direction'.

We also favour the inclusion in the Bill setting up the Authority of a provision in the Belgian National Railways Act, article 7(4) of which may be translated as follows: — "The Minister for Railways, *ex officio*, may be present and may vote at meetings of the Authority whenever he deems it desirable to do so: in such cases he will preside at the meeting". We feel that a provision of this kind would minimise the necessity for 'giving direction' as in this way, the Minister would be afforded an opportunity to discuss important subjects with the Authority. We trust that this would help to maintain harmonious relations between Government and the Authority.

200. *Financial Provisions.*—We turn now to the specific limitations of the powers of the Authority: these would mainly be financial. We visualise the Authority having five separate funds at their disposal—a Railway Fund, a Betterment Fund, a Railway Reserve Fund, a Depreciation Fund, and a Railway Provident Fund. The Railway Fund would be as defined in the first clause of Section 186(1) of the Government of India Act 1935, and would be a sort of current banking account to which the earnings of the Authority would be credited and from which money would be drawn to defray expenditure. The 1935 Act laid down [Section 189(1)] that Government would retain the Railway Depreciation Fund, Reserve Fund and Provident Fund, there being then no Betterment Fund, but also enacted that "the Authority may from time to time requires the transfer to themselves of so much of any such fund as they require to defray expenditure chargeable against that fund". We doubt if such a provision would now come within the framework of the draft constitution. We consider that the Authority should in any case be free to debit appropriate expenditure to these funds, subject only to audit control, which we discuss later. In order to secure this, it might be necessary for the Bill to contain provisions for the transfer of the corpus of each of these funds to the Authority on vesting day: this transfer would, we assume take the form of handing over to the Authority certain blocks of Government Securities, which the Authority would realise as required to meet its commitments. Similarly, all further sums accruing to these Funds would be invested by the Authority in Government Securities.

It would be necessary, after the passing of the Act setting up the Authority but before the vesting day, for Government to issue certain Rules under the Act. Amongst other matters, these Rules would cover—

- (i) the amount of interest and sinking fund charges to be paid annually by the Authority in respect of Capital at charge,
- (ii) the method of calculation of the annual contributions to the depreciation fund and the betterment fund, and
- (iii) particulars of items that could be properly charged to the depreciation fund and betterment fund.

It would also be necessary for a Convention to be executed by the Government and the Authority which would lay down principles on which the surplus, if any, after deduction of sums required to meet annual charges referred to above, should be divided between the Railway Reserve and the Revenues of India. The Convention would probably fix a sum which Government would expect as a contribution to the revenue of India in a normal year. The above mentioned Rules and the Convention should be presented to Parliament.

This Convention should, if possible, be framed in such a way that it would not require frequent alteration: that is to say, it should, as far as may be practicable, provide for fairly wide variations in the earnings both above and below what may be considered to be a 'normal year'. This will be of great assistance to the Authority as the Convention must form the directive guiding the Authority in the preparation of its revenue budgets and in the formulation of its rating policy.

To sum up: the Authority would have control of its own revenue account and of its Depreciation, Betterment and Reserve Funds. It would frame its own Revenue Budget and Replacement and Betterment Programmes subject to whatever may be stipulated in the Act or in Rules made under the Act concerning the use to which the Depreciation and Betterment funds could be put. The Budgets and the Programmes would not require prior approval of Parliament as they would not involve allocation of funds from the Revenues of India. But a clause, similar to Section 43(3) of the Damodar Valley Corporation Act, might well provide that a copy of the budget should be laid before the Union Parliament. This would give the Union Parliament an additional opportunity of discussing the policy followed by the Authority.

We now turn to the question of capital expenditure and provision of funds necessary for the purpose. In this respect we have to bear in mind the fundamental difference between the Indian Railway System now and the British Railway System in 1947 or the Belgian Railway System in 1926. Both of the latter countries may be said to be more or less saturated with railways. Certainly improvement and development will take place, particularly in the direction of electrification, but very little new construction, other than that of suburban passenger railways, is likely to be required. The position in India is very different. Not only will large development works be necessary as industrialisation of the country proceeds, but also much new construction. We, therefore, feel that decisions regarding new construction should rest with the Union Government. We do not consider that this would circumscribe the powers of the Authority unduly.

The procedure that we have in mind is as follows. The Bill would contain a clause similar to Section 41 of the Damodar Valley Corporation Act, which reads as follows:—

“The Corporation may, with the approval of the Central Government, borrow money in the open market or otherwise for the purposes of carrying out its functions under this Act.”

We consider that the Authority should normally borrow money for the execution of its capital programmes from the Union Government, but whether the money required for the execution of the Authority's Capital Programme is advanced by Government or is borrowed in the open market, Parliamentary sanction should be required in either case. Whenever the Authority requests the Minister to move Parliament to grant such a loan or to grant permission to borrow in the open market, the request should be accompanied by a statement of the objects for which the money would be required, in fact something in the form of the Capital works programme, at present prepared by the Board annually. The programme would have been approved by the Minister before he asked for Parliament's sanction to a Government loan or to borrow in the open market, but the actual Capital works programme would not in itself be submitted to Parliament. The main provisions in the Works programme would already have been included in the Report and programme referred to in para. 199, which would be placed before Parliament. Parliament would, therefore, already have had an opportunity of discussing the main programme and it should not be necessary to give a second opportunity for the same purpose.

We consider, however, that the Authority should be given fairly wide powers of reappropriation within the grants made to it for Capital purposes. We recommend that the Capital programme to be submitted to the Minister should be divided into two sections: works costing more than Rs. 1 crore, and works costing less than Rs. 1 crore. All proposals for the construction of new lines, and for major developments, such as main line electrification, would fall in the first section. The Authority should be given power to reappropriate funds provided for works sanctioned in the first section to other works sanctioned in the same section, and funds granted for works in the second section to other works costing not more than one crore, including works not specified in the original programme. Reappropriation between the two sections should not be allowed. The



object of this proposal is, first of all, to ensure that no change or substitution should be possible in the case of major works, but if, as may well happen, some works proceed faster and other slower than expected, the Authority should have the power to reappropriate between these major works. • But in the case of works costing less than Rs. 1 crore, substitution should be allowed: this would be necessary to enable the Authority to take in hand urgent or important works without avoidable delay. The present rules concerning the grouping of works (*vide* paragraph 950 of the Engineering Code) could be applied to prevent any possibility of large works being split into smaller ones and sanctioned separately. All such cases of reappropriation or substitution should be set out in the annual Report to Parliament.

We may sum up this section as follows:—

All Capital Programmes would be subject to the prior approval of the Minister, but the Authority would have the right to sanction works not specified in the programme, if costing less than Rs. 1 crore, and subject to availability of funds sanctioned for such works.

We feel, however, that it can never be possible to demarcate exactly in a Bill the powers of the Authority. Failing a better expression, we have suggested following the phraseology of the British Transport Act, that the Minister should have the power to give direction in relation to “matters affecting the national interest”. Clearly such an expression is open to a variety of interpretation. We trust, however, that in course of time the Authority's relations with the Minister and Parliament will become more clearly settled by precedent. A very great deal will depend on the Selection of the first Chairman of the Authority who will have the task of piloting it through its early years: a man of great tact and vision will be needed to consolidate the position of the Authority while at the same time maintaining harmonious relations with the Minister.

201 *Audit*.—The question of the auditing of the accounts of the Authority will be of the greatest importance. Section 46 of the Damodar Valley Corporation Act lays down that “The accounts of the Corporation shall be maintained and audited in such manner as may, in consultation with the Auditor General of India, be prescribed.” The relevant section in the 1935 Act (Section 190) reads—

“(1) The accounts of the receipts and expenditure of the Authority shall be audited and certified by, or on behalf of, the Auditor-General of India.

(2) The Authority shall publish annually a report of their operations during the previous year and a statement of accounts in a form approved by the Auditor-General.”

Article 125\* of the Draft Constitution appears to confine the duties and powers of the Auditor-General of India to the accounts of the Government of India and of the Government of any State. It is not entirely clear if the Auditor-General will be able to exercise the powers contained in Articles 126 and 127 of the Draft Constitution in respect also of the accounts of a Statutory Body set up by Act of Parliament. It is to be noted that Section 190 of the Government of India Act 1935, quoted above, was not considered to be repugnant to Section 166(3)\*\* of the same Act, which deals with the duties of the Auditor-General and is worded in a similar manner to Article 125 of the Draft Constitution. In any case it seems highly desirable that the Auditor-General should prescribe the form of the Authority's accounts and that he should audit and certify them.

202. *The Railway Executive*.—We now consider what will be the position of the present Railway Board after the Authority is set up. On

FOOT NOTE :—\*Draft Constitution : Article 125. “The Auditor-General shall perform such duties and exercise such powers in relation to the accounts of the Government of India and of Government of any State as are or may be prescribed by or under any law made by Parliament”.

FOOT NOTE :—\*\*Government of India Act : Section 166 (3). “The Auditor-General shall perform such duties and exercise such powers in relation to the accounts of the Federation and of the Provinces as may be prescribed by, or by rules made under, an Order of His Majesty in Council, or by any subsequent Act of the Federal Legislature varying or extending such an Order”.



vesting day the Authority would become what would be, in effect, the Board of Directors, and the Railway Board would become the Railway Central Executive. The Board would cease to be a Board, as it would lose its policy-forming responsibilities, retaining only its executive duties. The Chief Commissioner would become the Chief General Manager or the Director-General, or whatever the Authority might decide to call him, and the Financial Commissioner and Members would become his Financial, Transportation, Engineering and Staff Deputies. The Authority would settle the size and the personnel of the Central Executive, which would depend whether a policy of centralisation or of decentralisation were followed by the Authority.

Section 14 of the eighth schedule of the Government of India Act 1935 laid down that "the Chief Railway Commissioner and the Financial Commissioner shall have the right to attend any meeting of the Authority". We see no necessity for any such provision now. All would be servants of the Authority and the Authority would decide which, if any, of their officers should be present at their meetings, though, no doubt, it would usually be convenient to ask the Head of the Executive to attend, as he would be responsible for taking action on all decisions reached by the Authority. There would also be no necessity to define the powers of the Executive in the Bill. The powers of the Executive would be such as the Authority might decide to delegate to it.

203. *Position of Officers and Staff under the Authority.*—On vesting day, all Railway Officers and staff would cease to be Government servants and would become servants of the Authority; this would necessitate the giving of notice of termination of service and at the same time an offer of re-employment on similar terms to all concerned sufficiently far in advance of the vesting day. This would not preclude officers belonging to other branches of Government service from working for the Authority; in such cases the officers concerned would be regarded as on loan to the Authority. All subsequent appointments, selections and promotions would be made by the Authority, or by virtue of powers delegated by them. Probably the Bill setting up the Authority would contain a clause concerning the rights of appeal of the Authority's servants. The principle should be that the rights of appeal of officers and members of the staff of the Authority should not be inferior to the rights of appeal that they would have enjoyed had they been in Government service.

We have in Chapter X made recommendations concerning matters affecting the interests of the staff and concerning the setting up of joint standing machinery for the settlement of trade disputes, so we need not refer further to these matters here.

204. *Other Provisions.*—We consider that we have now outlined the scope, functions and constitution of the future Authority in sufficient detail. Certainly the Bill would have to provide for many matters which we have not referred to here, but we think that what we have suggested would provide an adequate framework and that it is not necessary for us to go into further detail. There are, however, a few other matters that should be mentioned though they might be outside the actual provisions of the Bill.

In view of the establishment of the Authority some amendments would be required in the Act recently passed, setting up a Railway Rates Tribunal. Certainly the Railway Rates Tribunal should be retained: in fact it is perhaps more important to have an independent orbiter between the public and an Authority than between the public and Government. But if the Authority is to be responsible, as it must be, for carrying out the obligations laid on it under the Convention, it must have general control of the level of rates and fares, subject only to the Union Government's residuary powers to 'give direction'. We, therefore, feel that 'Railway Authority' (or words to that effect) would require to be substituted for 'Central Government' in Section 42(2), Section 42(3), Section 43(3) & (4) and Section 45 of the Indian Railways Act as recently amended.

The setting up of the Authority would not change the responsibilities or powers of the present Railway Safety Authority. But we suggest that the Safety Authority might then be transferred from the Communications Ministry to the Transport Ministry.

Lastly, a word about the Central Advisory Council and the Local Advisory Committee; these must certainly be retained. In fact, everything we have said on this subject in Chapter VI would apply after, as well as before, the setting up of the Authority.

### B. The Railway Board

205. We have already recommended the setting up in a few years' time of a Union Statutory Railway Authority. We now consider the role and composition of the Railway Board and its office during the interim period.

206. *Functions and Organisation of the Board.*—The role of the Board is at present the same as it has been for the last twenty years: the Board are responsible to Government for the administration and working of the Government Managed Railways. They are, therefore, a policy-forming Authority and also the Supreme Executive for the Railways. But as regards their policy-forming function the Board are not solely responsible for it: in this respect they form part of the Secretariat of the Government of India and many policy decisions have to be made by them in consultation with other Ministries.

It follows, therefore, that while the responsibilities of the Board are very great indeed, their powers are circumscribed. The Board have often in the past been criticised for delay in announcing their decision on important matters: the blame does not necessarily rest on the Board as they frequently cannot reach any decision until they have secured the agreement of other Ministries. This generally describes the present position, and no important change can be made until a Union Railway Authority is set up.

We have heard many complaints as to the delay on the part of the Board in announcing their decisions. We have also heard complaints regarding delay in passing orders on executive questions, within the competence of the Board, and where therefore consultation with other Ministries is not needed. The Chief Commissioner and Members of the Board, in their evidence before us, have admitted that such delays do occur. We are sure that the Board realise the importance of reducing delay, but we consider that the problem should receive much more attention than seems to have been so far given to it. Part of the discontent among railwaymen might well have been avoided if the Board's decisions on important Staff questions could have been announced with reasonable expedition.

We have also made enquiries as to the reasons necessitating the maintenance of the present very large establishment in the Board's office. The following table compares the number of Class I posts in the Board's office in 1939 and now :—

	1939	Present
Chief Commissioner and Members . . . . .	4	5
Directors . . . . .	6*	7
Joint Directors . . . . .	..	9
Deputy Directors . . . . .	7*	14
Assistant Directors . . . . .	1	5†
Secretary . . . . .	1	1
Deputy Secretary . . . . .	..	1
Assistant Secretary . . . . .	1	1
Total . . . . .	20	43

\*Includes a post of Controller of Railway Accounts and Deputy Controller of Railway Accounts which were not borne on the cadre of Railway Board in 1939.

†It should be noted that though the Assistant Director and Assistant Secretary's posts are nominally Class I, they are usually held by Class II Officers.

The expansion of the Ministerial Establishment (Class I and Class III) has been even more startling. A statement which we print as appendix XXX, shows that the number rose from 143 in 1939 to 587 in 1946 and since partition, has been reduced to 473. The gross monthly salary bill for the Board's office, Class I, II, III and IV, has also grown from Rupees one Lakh in 1939 to Rupees two lakhs in 1946 and is now, including present salaries on the Central Pay Commission's scale Rupees one and three quarters lakhs. These figures are exclusive of dearness allowance but include overseas pay.

We have been told that this large expansion of the Board's office has been due to the following reasons :—

- (i) Owing to the termination of the contracts of the old Company Managed Railways, the number of State Managed Railways has increased from four, prior to 1942, to nine at present.
- (ii) The present policy of Government is that the pay and service conditions of Central Government servants should be standardised. This has led to the withdrawal of certain powers in respect of varying scales of pay previously delegated to General Managers and has greatly increased the work of the Board's office on the staff side.
- (iii) Present conditions in which Railways are unable to move all traffic offering have necessitated a considerable amount of central control over movement, to ensure that arrangements for the movement of high priority and Government sponsored traffic are properly co-ordinated. We are told that in some respects the Member Transportation now has to act as a Super-Chief-Operating Superintendent.
- (iv) During and since the war the Board have been saddled with a number of matters with which they did not deal directly before the war : these include the placing of orders for new rolling stock, allotment of steel quotas to the Railways, control of reserves of permanent way stores and allotment of coal supplies to Railways.

The increase in work caused by the increase in the number of State Managed Railways is probably not so great as might be thought. Even under Company Management the volume of correspondence between these administrations and the Board was very considerable.

It also has to be remembered that in the last eighteen months the Board have had to deal with the introduction of the Central Pay Commission Scales of Pay, Partition, and the implementation of the Adjudicator's Award, any one of which raises very large problems indeed. But even after giving due weight to all these considerations we are not convinced that the large expansion in all grades of staff in the Board's office is fully justified. Certainly any fresh proposals for the creation of additional posts in the Board's office should not be sanctioned until the necessity for such an addition has been accepted at the highest level.

207. *Decentralisation.*—We feel very strongly that wherever possible a policy of decentralisation should be pursued. This is desirable for three reasons :—

- (a) To secure more expeditious settlement of problems.
- (b) To reduce the volume of correspondence handled in the Board's office and so to speed up the conduct of business.
- (c) To effect economy in the size of the Board's office.

The Board have assured us of their desire to decentralise wherever possible, and we have been shown a list of new powers recently delegated to General Managers : this we regard as evidence of good intentions but on an examination of the list we do not think that the resulting reduction in references to the Board will be appreciable.

**208. *Size and Composition of the Board.***—We have also considered the size of the Board itself. In spite of the increase in the size of the Board we can find no evidence that the conduct of business has been speeded up. We have also discussed with the Board the question whether it is essential that the present size of the Board should be retained.

The answers that we received to our questions on this point were not entirely convincing, but we hardly feel that we should be justified in adding to the Board's present difficulties by recommending any immediate reduction in the size of the Board itself. When however conditions become more stabilized than they at present are, we think that the question of a reversion to the prewar size of the Board should be carefully examined.

We have also considered the question of the composition of the Board. On the whole we see no reason for departing from the existing practice of filling all posts other than that of Financial Commissioner by selection of experienced senior railway officers. There appears, however, to be a convention that the Chief Commissioner should always be a Civil Engineer. Clearly at least one Member of the Board should have had Civil Engineering experience, but we do not consider it necessary that this need apply to the Chief Commissioner himself. For selection to this post, the highest appointment open to Railway officers, we feel that officers who have been trained in Departments other than Civil Engineering should be considered equally with Engineers. Normally the officer selected to be Chief Commissioner should be a General Manager who has shown himself to be the best administrator and leader of men, to whatever branch of railway work he may have belonged.

Further we find that in the past the officer selected for the post of Financial Commissioner has always been a member of either the Indian Civil Service or of the Indian Audit and Accounts Service. This is not surprising as the Indian Railway Accounts Service is comparatively young and so far, no officer of this service has been sufficiently senior to be considered for the post of Financial Commissioner. We feel that it would be an advantage if the officer selected to be Financial Commissioner had spent at least most of his service on the Railways as an Accounts Officer, and we, therefore, trust that in future Indian Railway Accounts Service Officers of suitable seniority and experience will be considered for this appointment, along with officers of the Indian Audit and Accounts Service.

**209. *Duties of the Secretary, Railway Board.***—Lastly, we consider the work and responsibilities of the Secretary to the Railway Board. This officer, who is assisted at present by a Deputy Secretary and an Assistant Secretary has the following duties:—

- (i) He is generally in charge of the office and is responsible for the expeditious handling of work and for correct procedure.
- (ii) He is responsible for the budget of the Board's office and for the allotment of office accommodation, furniture, etc.
- (iii) He has charge of all confidential or secret files in the office.
- (iv) He handles all correspondence concerning Class I officers, that is to say in respect of appointment of officers to selection posts, appeals, disciplinary cases, or transfer of officers from one administration to another. He also is in charge of officers' confidential reports.
- (v) He is responsible for signing and issuing all policy letters, and generally for seeing that decisions reached at Board meetings are properly implemented.
- (vi) He acts generally as a Personal Assistant to the Chief Commissioner.

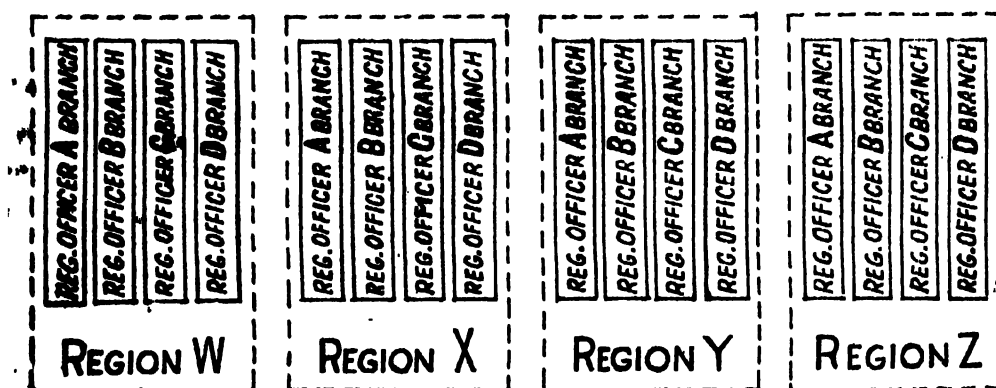
His task is an extremely onerous one and we feel that he should be partially relieved in order to enable him to devote much more time to the first of the above responsibilities which we regard as of the highest importance. We see no reason why the work of handling correspondence about Class I officers, No. (iv) above, should not be transferred to the Director of Establishment. We also suggest that policy letters might be signed by the Member principally concerned. Generally we feel that the Secretary's main responsibility should be the control of the office and supervision of the handling of cases. He should see that no avoidable delay occurs and that correct Secretariat procedure is followed. To enable him to devote his time to this work his personal executive responsibilities should be reduced to a minimum.

### - C. Divisional *versus* Departmental Organisation

210. *Description of Divisional and Departmental Organisation.*—Much ink has been expended in the past in attacking or defending the various systems of organisation employed on Indian Railways. The divisional system has, in such cases, often come in for rather rough handling.

In considering this question it is as well to start by explaining exactly what we mean by a 'divisional' or a 'departmental' organisation. Clearly, in any large undertaking such as a railway, having widely varying activities and conducting these activities in many places the work must be divided in two different ways; functionally and regionally. That is to say, that all the activities of the undertaking must first be classified and grouped and each group of activities must be entrusted to a set of officers whose education and training has suitably equipped them for the discharge of their particular functional responsibilities. Then, the area in which the undertaking operated must be divided into regions of such size that one functional officer can efficiently discharge his functional responsibilities throughout one region. Taking, therefore, an undertaking whose work is divided into four functions, A, B, C and D and extends over four regions, W, X, Y and Z the position, on the ground, will as follows.

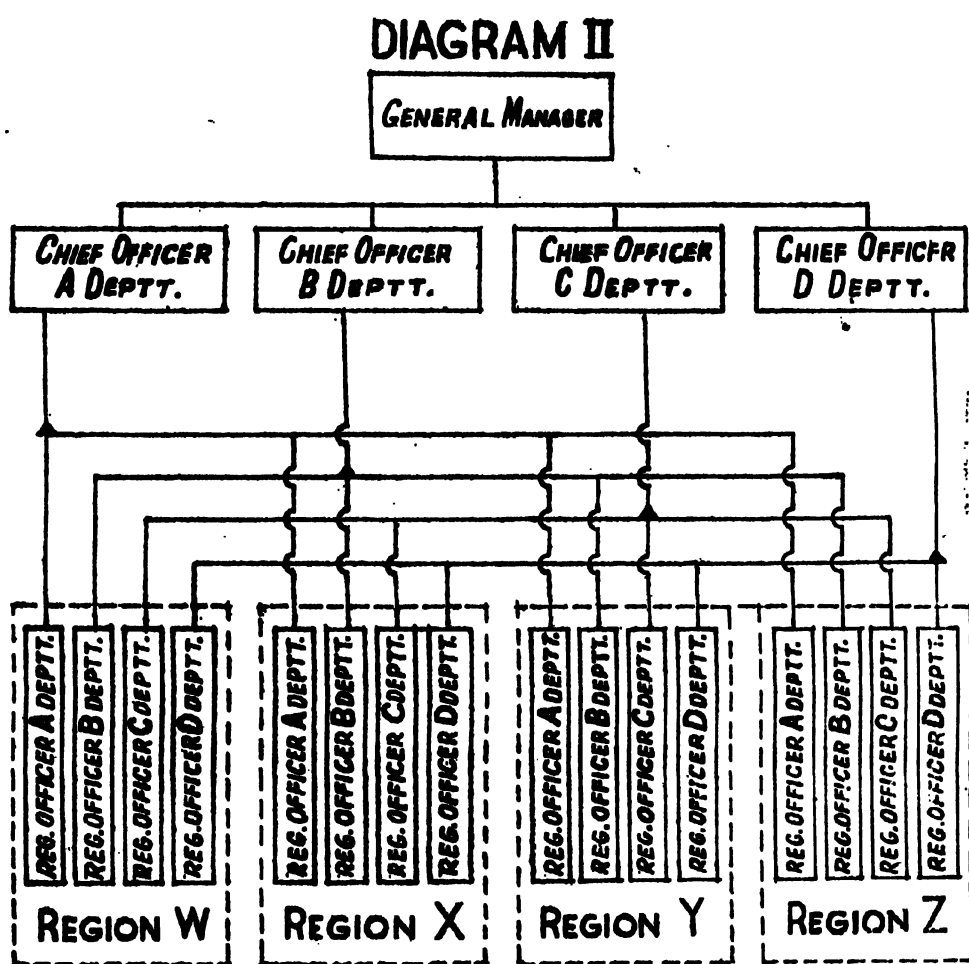
## DIAGRAM I



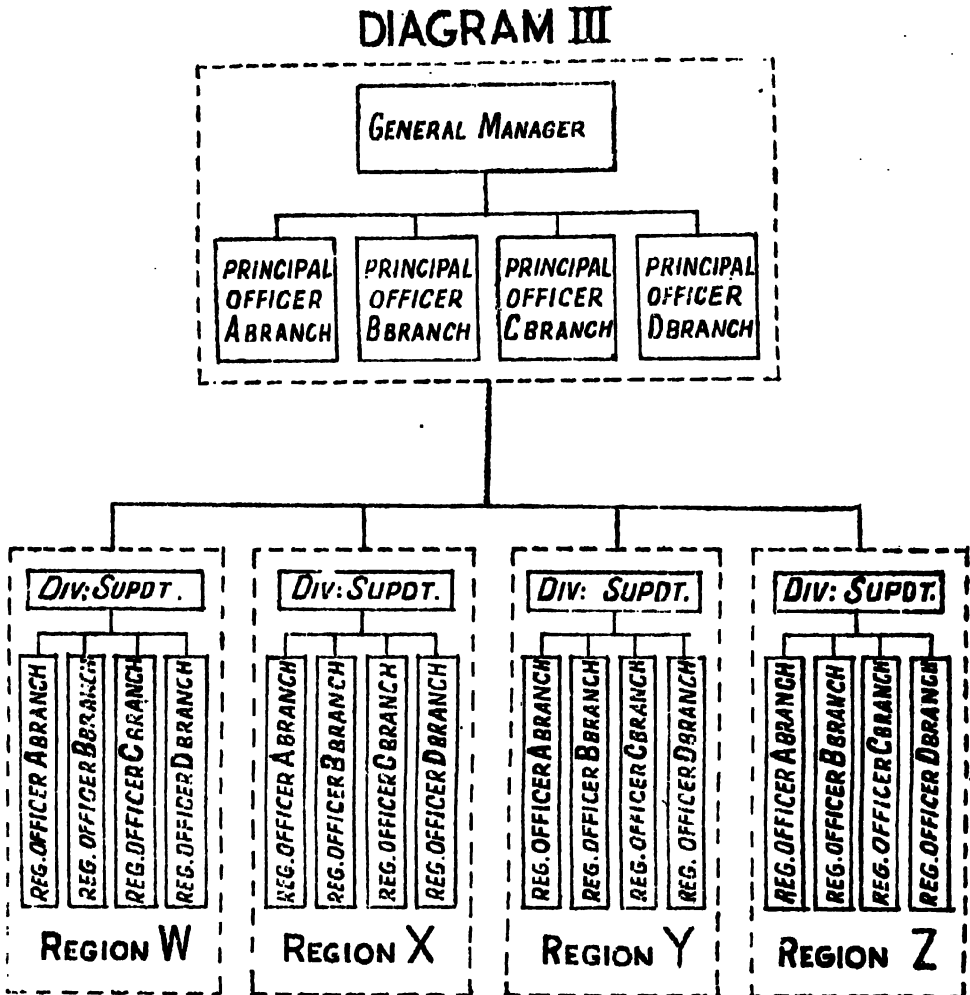
It should be noted that on a Railway the position is rarely quite so simple as this. For instance, each Region might require to be sub-divided between two officers of Function A, while one officer of Function D might be able to look after his side of the work in two regions. But there is no need to complicate the diagram.

Next, an organisational system has to be contrived so as to ensure that the work of all these officers can be suitably directed, co-ordinated and controlled. We assume a Head of the Executive, a General Manager, flanked by his group of functional adviser, whom we will call Chief Officer 'A', Chief Officer 'B', Chief Officer 'C' and Chief Officer 'D', and this brings us to the two main methods of linking up the chain of command, either functionally (departmentally) or regionally (divisionally).

In a departmental organisation each Regional Officer is directly responsible to the Chief Officer of his particular function or department, and the chain of command is like this.—



In a divisional organisation, however, a Divisional Superintendent is appointed for each Region to whom all Regional Officers in his region are responsible, and the Divisional Superintendents are directly responsible to the General Manager or rather what might be described as the "General Manager-in-Council", the General Manager and his Principal Officers as the Chief Functional Advisers. The chain of command then becomes—



In practice the 'Regions' in the diagram II would be smaller than in diagram III, that is to say, if a railway having a departmental organisation is divided into ten regions or districts, then the same railway under a divisional organisation might have only five divisions.

These diagrams also serve to show the principal inherent advantages and disadvantages of the two systems. A departmental system provides for direct control of the regional officers by their respective functional or departmental chiefs, but there is no co-ordinating authority below the level of the General Manager. A divisional system ensures co-ordination between the local functional officers, but functional control from the top is indirect and, therefore, weaker.

**211. Criticisms of Divisional Working.**—The above also covers a large part of the evidence we have heard in favour of, or against, the respective systems. While, perhaps naturally, officers have usually upheld the system of which they have had most experience, the partisans of the departmental system have usually taken 'good functional control' as their principal plank, while the divisional protagonists have stressed the importance of decentralised control and of ensuring local co-ordination.

The other main criticisms of the Divisional System are that it is alleged to be extravagant in officers and that there is less personal contact between officers and their staff. The first criticism is difficult to prove: in fact, the officers who drew up the original proposals for Divisional Organisations on the N. W. Railway and the E. I. Railway proved to their own satisfaction (and presumably also to that of the Railway Board) that a Divisional Organisation would be cheaper in officer supervision than was the Departmental Organisation previously in force. Possibly, efforts in this direction may have resulted in certain officer of the Divisionalised railways being given individual charges greater than they could reasonably be expected to carry out. Also the introduction of Divisional Organisations on these railways coincided with the setting up of Personnel Branches, and it has frequently been stated before us that the existence of a Personnel Branch weakens that close touch that should exist between the local officer and his subordinate staff. We deal with the question of the Personnel Branch in Chapter X.

It is generally agreed that divisional working is only necessary on the largest railway systems. We may put this in another way: a larger system should be capable of efficient control under a divisional organisation than would be feasible with a departmental system.

**212. Discussion and Recommendations.**— In an attempt to compare the relative efficiency of Departmental and Divisional Railways, we have set out in the tables below, important statistics as a basis of comparison.

Railways Broad Gauge	Speed of goods trains in miles per hour (1)				Wagon miles per wagon day (2)			
	1938-39	1944-45	1945-46	1946-47	1938-39	1944-45	1945-46	1946-47
<i>Divisional</i> <sup>1</sup>								
E.I. . . . .	9.12	8.2	8.6	9.0	38.4	39.1	37.2	24.6
N.W. . . . .	10.8	9.1	9.2	9.1	39.3	40.1	42.2	35.6
<i>Departmental</i>								
B.A. . . . .	9.9	8.9	11.0	10.4	25.3	33.5	42.4	24.1
B. N. . . . .	11.6	10.7	10.9	11.2	40.9	42.2	45.8	49.9
B. B. & C. I. . . . .	11.1	11.3	11.2	10.1	42.7	79.4	71.0	43.0
G.I.P. . . . .	13.3	11.5	11.2	11.0	57.5	63.7	57.5	47.0
M.S.M. . . . .	9.9	10.6	10.7	10.6	51.7	59.5	54.8	45.4
S.I. . . . .	11.0	11.1	10.7	10.2	38.0	47.4	48.1	37.3

Railways Broad Gauge	Engine miles per day per engine on line (3)				Engine miles per day per engine in use (all services) (4)			
	1938-39	1944-45	1945-46	1946-47	1938-39	1944-45	1945-46	1946-47
<i>Divisional.</i>								
E.I. . . . .	77	67	64	61	103	90	89	88
N.W. . . . .	73	73	76	74	118	105	105	105
<i>Departmental</i>								
B.A. . . . .	93	83	80	76	122	105	105	111
B.N. . . . .	86	86	88	89	130	115	118	122
B.B. & C.I. . . . .	65	67	68	72	106	100	100	101
G.I.P.* . . . . .	88	94	95	96	133	125	126	128
M.S.M. . . . .	82	88	86	79	110	116	114	116
S.I. . . . .	88	78	78	71	123	127	129	128



Railways Broad Gauge	Locomotives under or awaiting repairs in sheds (5)				Gross ton miles per track miles per annum in (0,000) (6)			
	1938-39	1944-45	1945-46	1946-47	1938-39	1944-45	1945-46	1946-4
<i>Divisional</i>								
E.I. . . . .	10.5	9.6	10.8	13.8	402	429	438	430
N.W. . . . .	13.1	7.7	7.9	9.0	190	201	212	213
<i>Departmental</i>								
B.A. . . . .	10.9	10.1	10.7	13.6	332	463	479	345
B.N. . . . .	16.9	11.1	10.9	12.2	351	383	416	433
B.B. & C. I. . . . .	13.7	17.9	14.6	16.5	293	320	299	348
G.I.P. * . . . .	15.0	12.9	11.8	12.9	291	391	414	400
M.S.M. . . . .	13.7	8.4	9.0	12.1	348	416	475	436
S.I. . . . .	9.1	4.1	6.9	8.5	227	263	287	268

Railways Broad Gauge	Gross ton miles per train engine hour (7)			
	1938-39	1944-45	1945-46	1946-47
<i>Divisional</i>				
E.I. . . . .	8,846	8,883	9,270	9,388
N.W. . . . .	8,239	7,774	7,491	7,482
<i>Departmental</i>				
B.A. . . . .	7,171	7,459	9,096	7,829
B.N. . . . .	9,560	9,143	8,923	9,623
B.B. & C.I. . . . .	10,695	9,785	9,077	8,166
G.I.P.* . . . .	11,245	10,620	9,759	8,927
M.S.M. . . . .	8,278	9,282	9,421	9,214
S.I. . . . .	7,660	7,022	7,130	7,427

\* Locomotive figures are for steam only electric locomotive figures excluded.

It would appear that the speed of goods trains in miles per hour, shown in the first set of figures, is definitely better on all railways with a departmental system. The same is generally true for the other statistics as well, except in the case of "locomotives under or awaiting repairs", where the N. W. Railway make a good showing. The E. I. Railway also show up well in the figures for gross ton miles per train engine hour. From these or other statistics, it is difficult to draw any firm conclusions as to whether the good or bad performance on a railway is primarily due to its organisation, but from the general trend of these figures it is apparent that whatever the reasons may be, the railways organised on a departmental basis; except perhaps the B.B. & C.I. Railway, have generally produced more satisfactory results than have the divisional railways.

We have received considerable evidence on the advantages and disadvantages of the Divisional Organisation. It is felt that on a departmental railway, the District Officer with a smaller beat and residing well within it has a more direct control over and intimate contact with his staff and the result is a better standard of discipline and efficiency when compared with the conditions prevailing on a railway worked on a divisional basis. The pressing need at present being constant contact between the officers and the men, the Departmental system would appear to be more favourable.

We put this problem before the Railway Board, whose views were that the Divisional system had not necessarily produced better results though this system had certain obvious advantages in that better co-ordination between branches was achieved at a lower level. The main disadvantage, however, according to them was the lack of contact between the executive and the staff. They seem to favour an organisation similar to that on the G.I.P. Railway. On this railway, the Traffic-Operating and Power-

Operating staff all belong to the Transportation Department. The line is divided into Transportation Divisions and in each Division a Divisional Transportation Superintendent, of junior administrative grade, is responsible to the Chief Transportation Superintendent for all Transportation work in his area. He normally has no responsibilities for the work of officers of other Departments. The organisation is, therefore, Departmental, but close co-ordination between Power and Movement is assured.

As we have already indicated, the weight of evidence appears to favour Departmental Organisation, and we should be prepared also to support the Board's preference for the G.I.P. organisation in particular. We do not, however, feel justified in going so far as to recommend the abolition of the Divisional Organisation on the E.I. and E.P. Railways. Nor do we think that the present is an opportune time for recommending any drastic changes. It might be an expensive matter to revert to departmental working on these railways. Considerable additional building might be necessary, and a change would be apt to cause some degree of temporary disorganisation. However, a change of system on the E.I. Railway to bring the organisation into line with that of the G.I.P. might be worth consideration. The first step would be to form a strong Operating branch at headquarters, on the lines recommended by us in paragraph 103, Chapter V; this would also generally correspond to the G.I.P. Railway headquarters organisation. The next step would be to relieve the Divisional Superintendents of their Civil Engineering, Commercial and other responsibilities until only Operation remains; that is until the Divisional Superintendents' responsibilities are brought into line with those of the Divisional Transportation Superintendents on the G.I.P. Railway. Officers of the branches other than Operation would then work under the direct orders of their Heads of Departments. It is possible that this change could be made without any very great expenditure, but it would require very careful study and preparation before hand. We suggest that this should be carefully examined.

This question of what is the most suitable system of organisation for Indian Railway will, however, become one of first importance in a few years' time when the problem of regrouping is seriously examined. It will then have to be decided whether this regrouping should be on the basis of a small number of large divisionalised railways or of a larger number of departmentalised railways of limited size. In a country like India with a relatively small railway mileage compared with the vast area of the country, there would appear to be a much better case for divisionalisation than there would be with the very much compactor railway systems found in Europe. But in the light of the evidence we have received, we are unable to make out a case for recommending the adoption of the divisional system as a basis for a future scheme of regrouping. We would, however, recommend that a further very careful examination of the question should be made before the divisional system is definitely condemned.

We, however, make some general recommendations concerning possible improvement in the present systems of organisation. In the case of departmental railways we have already referred to the special feature of the departmental system that it provides for direct functional control from the top, but does not afford means of ensuring local co-ordination between the district officers. In view of this, it is important that the functional division, or in other words the scope of each department, should be as clear cut as possible, in order to avoid any risk of officers' duties overlapping, and to reduce the importance of close local co-ordination. We have, in other chapters, given our views as to what should be the scope of certain departments and in forming these views we have kept this question of clear cut functional division well before us. One essential is the formation of an Operating or Transportation Department, which we have discussed in Chapters IV and V.

We have also examined another proposal for affecting local co-ordination between district officer. Mr. C. S. Moore was placed on special duty in 1946 to examine the B. N. Railway system of organisation and to

make recommendations for improvement. He suggested making the Districts pertaining to the different departments co-terminus and, as far as possible, centralising the District headquarters at certain selected places. When this had been done, a senior officer of the district might, he suggested, be entrusted with the duty of bringing about co-ordination between the activities of the various departments. This officer would be given an allowance for this co-ordination work. This system has not yet been tried either on that railway or on any other and, therefore, it is perhaps premature for us to state what advantage might be derived from it. It clearly has the disadvantage of introducing a division of responsibility, as each district officer, in addition to his main responsibility to his own Departmental Head, would also have some responsibility to his District Co-ordinating Officer. The proposal might perhaps be tried out experimentally on a Railway where districts are already mainly co-terminus and on which district officers are generally concentrated at District Headquarter stations. On such a Railway the experiment would not be expensive.

Turning now to the divisional railways, if they are still to remain as such, we have already referred to the general complaint that on divisional railways contact between divisional officers and their staff is not as close as it should be, or as close as it is on the departmental railways. We believe that this is partly due to the concentration of officers at divisional headquarters. Certainly it facilitates the work of the Divisional Superintendent to have all his senior officers working in the same office, and should reduce correspondence between these officers but it introduces the undesirable feature of engineer officers living off their lengths and sometimes at considerable distances away. We feel that this might be remedied and that engineer officers, divisional as well as assistant, should live on the section of line for which they are responsible, although this will result in some increase in office staff. Similarly, in the case of larger divisions, there may be advantages in dividing the work of supervising movement between two Superintendents Transportation, each taking half the division. We feel some hesitation in recommending increases in the number of senior scale officers, but we have in Chapter V laid considerable stress on the necessity for closer officer supervision of yard working. The attainment of this may necessitate some increase in the number of officers. But generally we feel that some degree of decentralisation within the division, where it can be brought about without heavy expenditure on housing, may help to improve contact and understanding between the divisional officers and their staff.

## CHAPTER XIII.

### REGROUPING OF RAILWAYS\*

**213. Introductory.**—For years past some regrouping of Indian Railways has been pressed for, not only by the Legislature and Chambers of Commerce but also by Railway Officers. The reasons given have usually been something as follows:—

- (a) It has been urged that the unification of railways should lead to economy in staff at headquarters and also to increased efficiency owing to unified operative control of larger areas.
- (b) It has been pointed out that the growth of railways in the past has been somewhat haphazard and that some of the present systems are anything but compact.
- (c) It has been felt that the present systems have no relation to provincial boundaries and that co-operation with Provincial Governments would be improved if, as far as practicable, the control of railways operating in a province were unified.

Further, now that with a few minor exceptions, all railways other than the Indian State Railways, are under Government control, there would appear to be a good case for regrouping the railways on more rational lines than at present.

The Wedgwood Committee considered the question of regrouping of railways in India and recommended that, when the railways concerned come under State-management, the Eastern Bengal and Assam Bengal Railways should be combined, and also the Madras and Southern Mahratta and South Indian Railways. They did not go further. In paragraph 197 of their Report, they stated their opinion "that it would still be desirable for them to maintain separate State-managed administrations of reasonable dimensions. If the administrations are unduly extensive, headquarters supervision becomes too remote, and the machine as a whole becomes unwieldy. The *esprit de corps* of such overgrown concerns is weakened and they lose the individuality that comes from direct personal initiative at the top. We think there is also much to be said for preserving a measure of rivalry between different administrations, particularly at one centre. This tends to stimulate efficiency of service and progressive ideas of management."

It will be noticed that the Committee, while sounding a warning against over-centralization resulting in unwieldy systems, did not express any view as to their maximum size.

The first of the above recommendations, the amalgamation of the Eastern Bengal and Assam Bengal Railways, was carried out on 1st January 1942, when the latter was taken over by State. The amalgamation of the Madras and Southern Mahratta and South Indian Railways, which came under State on 1st April 1944, though we believe, accepted in principle by Government, has not yet taken place.

**214. Readjustment of railways leads to temporary loss of efficiency.**—However, past experience has shown that the amalgamation of railways or the transfer of parts of one system to another, always results in a temporary loss of efficiency. The reasons may be briefly stated as follows:—

- (a) Amalgamation is bound to have an adverse effect on the prospects of advancement of some sections of the officers and staff concerned.
- (b) Inevitable changes in the system of organisation of the new and enlarged system.

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\* N. B.—This chapter was submitted in advance to the Railway Board at their request on 20th September, 1948.

In view of this we feel that it would be wrong to make any general recommendation now for the regrouping of railways. The railway systems must be left to work out their own individual salvation and to regain the degree of operational efficiency that the country requires. It would be unfair to the officers, who are striving for this improvement, to inflict on them now the serious additional problems that a general regrouping of railways would produce.

Further, any scheme for regrouping of railways in the future might be considerably influenced by the inclusion of some of the Railways now owned and worked by Indian States. In this connection, we would draw attention to the White Paper on Indian States explaining the policy of the Government of India towards Indian States and the process of integration of the States into viable and sizeable units. We would like to see a somewhat similar effort made in the sphere of railway transport as we think that improved efficiency and increased net earnings might result from the integration of the large number of small Indian State Railways into larger units. It may even be possible, at a later stage, to hand over the management of these Railways to an Indian Government Railway, provided it is reasonably certain that improved operational efficiency and an increase in net earnings would result. There should be no question of the ownership of the railway being transferred from the Indian States to the Government of India; the States would retain their ownership and continue to derive the same financial benefits from these Railways as they are obtaining now. We consider that the Government should actively pursue this matter, and it is hoped that by the time regrouping is taken up, this question would have been settled. The possibility of a change-over in this direction is another reason why we would stress that no decision on the general question of regrouping in India should be taken now.

We, therefore, recommend that consideration of the general question of regrouping should be deferred for at least five years.

215. *Partition of India, its effect on Railways.*—Partition, however, has introduced problems requiring more urgent consideration. The Railways concerned are the old North Western Railway and the Bengal Assam Railway. The former used to have a total route mileage of 6,881; of this 5,019 miles are now in Western Pakistan and the balance of 1,862 miles, which still lie in the Indian Union, have been formed into a separate administration known as the Eastern Punjab Railway. The division of the Bengal Assam has been more complicated as the formation of the new Pakistan province of East Bengal has divided the Railway into four sections, and the three sections in India do not connect with each other at any point. In addition, to the 1,631 route miles which now form the Eastern Bengal (Pakistan) Railway, 394 route miles have been transferred to the East Indian Railway, 300 route miles to the Oudh Tirhut Railway and the remainder, 1,231 route miles, now forms the Assam Railway.

The route mileage of Indian Government Railways before and since Partition is, therefore, as follows:—

Pro-Partition		Present.	
Railway //	Route miles	Railway //	Route miles
B.A. . . . .	3,555	Assam . . . . .	1,231
B.N. . . . .	3,388	B.N. . . . .	3,388
B.B.& C. I. . . . .	3,404	B.B.&C.I. . . . .	3,404
E.I. . . . .	4,064	E.I. // . . . . .	4,457
G.I.P. . . . .	3,531	G.I.P. . . . .	3,531
M.& S.M. . . . .	2,938	M.&S.M. . . . .	2,938
N.W. . . . .	6,881	E.P. . . . .	1,862
O.T. . . . .	2,888	O.T. . . . .	2,987
S.I. . . . .	2,349	S.I. . . . .	2,349
	<u>32,798</u>		<u>26,147</u>

216. *Problem of the E.P. Railway.*—We consider the situation of the Eastern Punjab Railway first; the position held by this railway is now one of the greatest importance. Not only does it carry nearly all the trans-frontier traffic between India and Western Pakistan but it is responsible for the working of the very difficult Delhi area. It has also assumed great strategic importance. On the other hand, it is a comparatively small railway; it only has a make-shift headquarters, and it has no resources in the way of Mechanical or Engineering Workshops, Printing Press or Stores depot etc. Therefore, the urgent problem is whether the E.P. Railway should remain as it is and make good its deficiencies by new construction, or should it take over some portions of other railways so as to increase its resources, or should it be merged with another administration?

217. *Railway Board's proposal.*—The Railway Board at first favoured the following general plan: to reform the existing E.P., O.T. and E.I. Railways into two administrations: one to include the E.P., and the portions of the O.T., and E.I. Railways to the West of Gorakhpur and Moghalsarai respectively, the other to include the remaining portions of the O.T. and E.I. Railways. The reasons for this have not been set out in detail, but it was probably felt that, in addition to the E.P. Railway, being small, the E.I. Railway, had now become too large for efficient control. Also that the working of the O.T. Railway, presented special difficulties which might be overcome if this Railway were amalgamated with other larger administrations. It was also desired, as far as practicable, to provide for unified control of railways serving break-of-gauge transshipment points. Further, the proposed groupings would bring into the Western administration, the majority of the railways in the United Provinces and East Punjab, while the Eastern administration would cover mainly railways in Bihar and West Bengal.

218. *Special investigation by Mr. B. B. Varma and Comments on his proposals.*—The Board placed Mr. B. B. Varma on special duty at the end of October 1947, to examine in detail these general proposals and to make recommendations as to the actual frontiers of each group, and the steps by which the existing railways should be transferred to form the new groups. Mr. Varma prepared two valuable reports, and his recommendations may be briefly summarised as follows:—

- (a) The actual division points should be at Moghalsarai (inclusive to the Western group) and Chupra Kacheri, also that the Kanpur-Kasganj section of the B.B. & C.I. should be transferred to the Western group. The eventual route mileage of the two systems would then be:—

	Western group	Eastern group
B.G. . . . .	3,828	2,288
M.G. . . . .	2,075	1,124
N.G. . . . .	158	17
	<hr/> 6,031	<hr/> 3,429

- (b) A new headquarters for the Western group should be built at or near Lucknow and the necessary mechanical workshop and stores facilities should be provided by increasing present facilities at Lucknow and Gorakhpur. The Eastern group would also need a new metre gauge mechanical workshop at Samastipur.

- (c) As the construction of new buildings required would take some considerable time it was proposed to phase the regrouping as follows:—

- (i) E. P. Railway to be merged with the E.I. Railway: a "Regional Manager" and small staff being stationed at Lucknow to control operation, mechanical maintenance and stores work on the existing E. P. Railway and three

Upper divisions of the E.I. Railway under the orders of the General Manager, E. I. Railway.

- (ii) As soon as the building of the new headquarter offices at Lucknow should be sufficiently advanced, the new Western group administration should be formed and take full control of its broad gauge responsibilities.
- (iii) When the new administration had properly established itself the O.T. Railway should be divided and placed under the orders of the General Managers of the Eastern and Western groups.

While we appreciate the care and thoroughness devoted by Mr. Varma to the task set to him, we are not sure that his original angle of approach—the consideration of how much of the Western portion of the existing E.I. Railway should be amalgamated with the present E. P. Railway, to make the latter a properly viable unit—was correct. We consider that a more correct approach is to decide first what should be the future limits of the E. I. Railway, which is, and will remain, the most important railway administration in India. It is responsible for handling besides other important traffic the major portion of the coal traffic of the country. The first essential, therefore, is that the E.I. Railway must remain a thoroughly efficient unit and that its limits should be such as would enable it to discharge its responsibilities fully. The magnitude of this movement is already such as to require the working of the Grand Chord line continuously up to its maximum capacity, and this traffic, we believe, will increase. We, therefore, regard it as essential that the E.I. Railway must continue to control not only Mughalsarai, which is the focal point for the reception of coal from the coalfields and the distribution to upper India, but also the working of the lines for some considerable distance to the west and north-west of Mughalsarai. This will give the railway such holding capacity as will obviate any temporary congestion at junctions with the other railways or at main terminals such as Allahabad, Kanpur and Lucknow, causing congestion at Mughalsarai and so reacting on the working of the Grand Chord. Even if regrouping were feasible just now, we would consider it necessary that limits of the East Indian Railway should in no circumstances be taken east of the line Kanpur-Lucknow (both inclusive).

When we discussed this question with the General Manager and other senior officers of the E.I. Railway, their considered opinion was that at least for some years to come and until the E.I. Railway system was considerably improved in efficiency, it would be unwise to make any major modifications as to the boundaries of the railway. Past experience had shown that transfer of parts of one system to another always results in loss of efficiency, at least temporarily, owing to the adverse effect on the prospects of advancement of some sections of officers and staff and the inevitable changes in the system of working of the new and enlarged railway.

We agree with these views and recommend that this railway should remain as at present for the next five years or so. If, however, the E.P. Railway Workshop is located anywhere between Hapur and Khurja, it may be desirable to transfer the control of Khurja-Meerut section to that railway.

As we are not recommending any division of the E.I. Railway, we would deprecate the addition to the Railway of any Metre Gauge responsibilities, by the proposed transfer of a part of the O.T. Railway. We realise that in recent years special difficulties have arisen on the O.T. Railway. The uncertainty with regard to its future during the 5 or 6 years preceding its acquisition probably affected the outlook of the administration and it has suffered since the partition owing to frequent changes in the holders of responsible posts, including that of the General Manager. This Railway is, perhaps, failing to a greater degree than any other railway in the Union, to provide for the proper movement of traffic in the areas which it serves. There is no doubt that this system calls for the most urgent and anxious consideration. We do not, however, see how

either dividing this railway or merging it in another system could provide a satisfactory solution. We feel that the only possible course is first to make certain that the main administrative posts on this railway are held by efficient and enthusiastic officers and that these officers are working wholeheartedly together as a team. Provided that these conditions prevail we feel that the rest can be left to the O.T. Railway, with the minimum of outside interference.

One of the reasons given in support of Mr. Varma's proposal is that the O.T. Railway would stand to gain by being attached to the more progressive E.I. Railway. This argument does not appeal to us. We have seen the condition now obtaining on the E.I. Railway, and are satisfied that the hands of the administration are full with their own problems and difficulties, which have been referred to in earlier chapters, and we consider it would be most inopportune to add to the E.I. Railway any portions of the O.T. Railway. Another reason advanced in favour of the amalgamation of portions of the O.T. and E.I. Railways, is the advantage of unified control of railways serving break-of-gauge transshipment points. We feel that this advantage has been rather exaggerated. We are convinced that by regular periodic meetings of the Officers concerned, adequate understanding between the railways can be ensured. The posting of a liaison officer at the main transshipment point would assist smooth and efficient working. An experiment has recently been tried, at Mokameh Ghat and, if successful, might be copied elsewhere.

In these circumstances, we are convinced that the O.T. Railway must remain as a separate undertaking as at present. There is no objection however, to minor modifications to the limits of the systems, such as for example, the transfer to the O.T. Railway of the Achnera-Kanpur section of the B.B. & C.I. Railway, which incidentally, both the General Managers of the O.T. and B.B. & C.I. Railways approved. When the Assam Link is completed, it may be found possible to extend the Assam Railway up to Kathinar and end the O.T. Railway there.

219. *Alternative Schemes to solve E.P. Railway problems.*—A mere rejection of Mr. Varma's main recommendations does not, however, help to solve the E.P. Railway's difficulties. This railway has none of the basic facilities that are essential for the running of a railway. There are no locomotive, carriage and wagon, electric, block, signal and bridge workshops, stores depots, etc., within the limits of the railway. We consider it essential that each railway system should be complete and self-contained with the necessary facilities. Farming out of repairs can never be satisfactory and should be regarded only as a temporary expedient. It vitiates the principle that each administration should be responsible for and have as complete control as possible over its own affairs and expenditure. Of the basic facilities, we would place mechanical workshop first. We have, therefore, considered the possibility of bringing at least one mechanical workshop within the limits of the E.P. Railway, by extending it in a direction other than towards the E.I. Railway. We considered the following transfers:—

G.I.P. Railway to E. P. Railway.

Jhansi (inclusive) to Okhla and G.I.P. Railway branches in Agra area.

B.B. & C.I. Railway to E.P. Railway.

Kotah (exclusive) to Mathura, Bayana to Agra East Bank.

E.I. Railway to E.P. Railway.

Tundla (inclusive) to Ghaziabad,

Tundla to Agra,

Khurja—Hapur—Meerut City branch.

G.I.P. Railway to E.I. Railway.

Jhansi (exclusive) to Kanpur and Ait-Kunch branch.

The main purpose of this proposal was to transfer to the E.P. Railway the G.I.P. Railway Carriage and Wagon Workshop at Jhansi.



We discussed these proposals with the General Managers and the senior officers of the G.I.P. and B.B. & C.I. Railways and also obtained the views of the General Manager, E.I. Railway. The G.I.P. Railway explained that at Matunga and Parel workshops there was no spare capacity and it would be impossible to transfer elsewhere the G.I.P. work which is now being done in the workshop at Jhansi. This workshop at present deals with the major portion of the G.I.P. wagon repair work and some carriage repair work also and our examination has shown that this workshop has little spare capacity in regard to plant, equipment or accommodation which could be of assistance forthwith to the E.P. Railway. The expansion of the workshop to meet the E.P. Railway's requirements would require the provision of new plant, machinery, shop accommodation and staff. Further, the water scarcity at Jhansi and in the surrounding areas is very acute and there is hardly any possibility of obtaining sufficient water for any large scale expansion of the workshop. It is also stated that the provision of electric power would be another problem. Certain operating difficulties were also pointed out if Jhansi were to be transferred to the E.P. Railway, but we do not consider these difficulties insuperable. We were, however, convinced that it would be impracticable for the G.I.P. Railway to spare the Jhansi workshop entirely for the needs of the E.P. Railway until the G.I.P. Railway build another shop elsewhere. This proposal, in fact, merely transfers the work of building a new workshop from the E.P. to the G.I.P. Railway and in return, the E.P. Railway would obtain a shop which at best could only meet their carriage and wagon repair requirements and would be of little or no assistance as regards locomotive repairs.

In view of the fact that no immediate relief can be given to the E.P. Railway by the transfer of the Jhansi workshop to this railway, we feel that the entire argument for the expansion of the E.P. Railway towards Jhansi loses its force. We, therefore, do not deal with the arguments put forward by the General Managers of the B.B. & C.I. and E.I. Railways against the transfer of sections of their railways to the E. P. Railway.

We have also discussed this problem with the Chief Administrative Officer and other senior officers of the E.P. Railway. They stressed the consideration that apart from the main object of expanding the E.P. Railway, so as to provide workshop facilities for the repair of locomotives and carriages and wagons etc., there was also the need for providing additional resources in personnel, rolling stock and stores to cope with any emergency which may arise on this railway. They felt that it was not feasible for other railways to supply the requisite trained personnel familiar with these sections at short notice. We agree with their views but only to a limit; we think that in the event of an emergency, the controlling authority should be able to arrange transfers of stock and stores from another railway. Even in the case of staff, such transfer may be effected temporarily by executive order so that the railway concerned may have time to train the necessary staff.

220. *Recommendations.*—Earlier in this chapter, we have said that there appear to be three general solutions to the problem of the E.P. Railway. It should remain as it is and make good its deficiencies as soon as possible, or it should take over some parts of other railways, or it should be merged with another administration. We have given reasons for our inability to recommend the second solution. We have considered the possibility of the amalgamation of the E.P. Railway with either the East Indian or the G.I.P. Railways and we should be strongly opposed to any such solution. The E.I. Railway is as large a system as can be efficiently controlled from one Headquarters and we should deprecate adding of further responsibilities to this system. The G.I.P. Railway, at present, is not so large but, on the other hand, it is a very straggling system and the addition of the E.P. Railway would increase the length of the main line to about 1270 miles. We cannot visualize effective control of the Ferozepore Division from Bombay and definitely consider that this solution of the problem is not worth the consideration. We are, therefore, left with the first alternative as the probable solution.

We, therefore, recommend that the E.P. Railway should continue as a separate entity with its present limits for some years to come. It is essential, however, that workshops, stores and other basic facilities must be provided without any avoidable delay.

Earlier in this chapter, we have given reasons for deferring the general question of regrouping for at least five years from now or until the conditions in the country stabilize and the efficiency of the existing systems improves to a standard when a re-arrangement of the railway systems on more rational lines would not be attended with any serious loss of efficiency. We recommend that action should immediately be taken to establish a new workshop, a new stores depot and other such basic facilities for the E.P. Railway. It is not possible for this Committee to recommend the site where such facilities should be located. The only recommendation we can make on this subject, therefore, is that the site chosen should be on or near the E. P. Railway. The size of the workshops etc., should be such as to meet the entire present requirements of the E.P. Railway by these workshops and other facilities should be capable of expansion, if necessary, in the future, when the general question of regrouping is taken up.

We do not consider that our proposal would involve any greater degree of expenditure than that would be required to implement Mr. Varma's recommendations. He asked for the expansion of the workshop and the stores depot at Lucknow, but considering that land is difficult, and in any case expensive to obtain, we do not think our proposal of having a new workshop and other facilities for the E.P. Railway will be more expensive.

Before we close the chapter, we would like to point out that there is considerable misgiving in the minds of officers of the E.P. and Assam Railways about the future of these railways and their own prospects and promotions. As the consideration of the question of final regrouping of railways in India has been recommended to be postponed for the time being, we do not see sufficient justification, financial or otherwise, for increasing the status of the senior administrative officers of these small sized railways. Nevertheless, we fully realise that it is necessary that the avenues of promotion of these officers should be enlarged, and as far as feasible, equalised with those on other larger systems. We therefore, recommend that the officers of the E. P. Railway should be put on a common cadre and seniority with those on the G.I.P. Railway, and likewise the Assam Railway with the E.I. Railway. We would have preferred the linking of the E.P. Railway with the E.I. Railway in this respect, but owing to our recommendations in regard to the Assam Railway, we consider that the cadre of the E.I. Railway would then become too large. At any rate, this would be a temporary feature, until the general question of regrouping is taken up, when we visualize that a complete readjustment of cadres of the new railways will have to be decided upon. We, therefore, do not consider that this temporary expedient recommended by us should cause any difficulty.

## CHAPTER XIV.

### RAILWAY GRAINSHOPS ORGANISATION\*

**221. Introductory.**—We have studied the report of the Railway Grainshops Inquiry Committee (RGIC) and fully agree with their views that the present Grainshops Organisation is extremely unsatisfactory. We give below certain questions from the report which to some extent summarise the principal complaints that have been made against the present Railway Grainshops Organisation.—

- “Allegations were made that mis-declaration, generally of dependents, is very common in the case of Line staff, the verification of which is an almost impossible task. It was also reported to us that the same dependents were often included in more than one ration card of the member of a family.” (Para 42—page 22).
- “On another railway it was reported that about 1000 cards of temporary railway employees who were no longer in service were in use till recently. One can imagine how widespread must this practice be in the case of temporary and casual employees who have no stake and in the case of whom it is particularly difficult, even impossible to make a proper scrutiny.” (Para 42—pages 22, 23).
- “During our visits, we met representatives of all the Managing Committees of the Shops which we visited and were informed that these committees had proved absolutely ineffective in improving the standard of working of the shops or of supplying better rations to staff.” (Para 48—page 26).
- “Our general impression is that these Committees have not been taken seriously.” (Para 48—page 27).
- “The impression left on our mind, after examining the position on various railways, is that there have been many irregularities and that the railways are paying much more than is warranted by the market conditions, particularly where the decentralised purchase system prevails and in the case of spot purchases.” (Para 54—page 32).
- “The weakest spot of the Purchase Organisation is the check of supplies against the tender samples.” (Para 56—page 33).
- “It is, we are afraid, at this point that most of the abuses in connection with the grainshops take place.” (Para 56—page 34).
- “We do not think that it is at all possible (in Railway Grainshops) to have absolutely uniform qualities in these articles of domestic use.” (Para 57—page 34).
- “There were general complaints that these Committees (Vigilance or Management Committees) were ineffective and that the management of the shops was unsatisfactory.” (Para 62—page 38).
- “There were bitter complaints about the behaviour of the shop staff, particularly towards Class IV employees.” (Para 62—page 38).
- “Our general impression is that shops as they exist are not adequately equipped or manned to deal satisfactorily with a large number of clients.” (Para 62—page 38).
- “The stuff distributed was alleged to be invariably of bad quality. Commodities were often out of stock so that the employees had

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N. B.—This chapter which contains our views on the report of the Railway Grainshops Inquiry Committee was sent to Government on the 15th September 1948 at their request. The Government resolution announcing their decision on the report of the Committee was published on the 30th October 1948. We attach the Government Resolution as appendix XXXI.

- to go over again to receive them. The position of mobile shops was particularly unsatisfactory." (Para 63—page 39).
- "But what we are most concerned with is that the entire atmosphere of the grainshops is saturated with corruption and the reputation of the honest officers and subordinates in that organisation is suffering badly on that account" (Para 74—page 43).
- "In the sale shops a slight underweight for each customer makes a big total and provisions can be readily sold. We found that most Shop Managers managed to show in their accounts just that deficiency in stock which is allowed by the rules." (Para 76—page 44).
- "In the case of workers, false declarations of dependents, especially in rural areas appear to be common. The resale of articles bought at concessional prices cannot be called corruption in a strict legal sense, but it is certainly a gross abuse of the privileges offered to the workers. The practice is almost universal though the extent varies from place to place. According to information furnished by the railways about 1/6th of the staff buy ration worth more than their basic pay. In some localities, the bazar is said to be flooded with these articles. One high official facetiously remarked that if his servant failed to get an article in the local shops, he knew that it was in short supply in the Railway Grainshop." (Para 77—page 44).
- "There is no direct remedy against these evils. In ordinary shops, the customer's displeasure acts as an effective check but as the railway worker is compelled to buy in the grainshop or lose what part of his dearness allowance as is represented by the price concession on his rations, they are unavoidable under the present system. All that can be attempted is to minimise them." (Para 78—page 44).
- "The Purchasing Organisation specially where it has been decentralised is unsatisfactory and inefficient. The Purchasing Committees have not been effective. Often very high and uneconomical prices have been paid. (Para 98—page 54).
- "The most unsatisfactory feature of the grainshops is the Retail Sale Shop." (Para 98—page 54).
- "It (the Grainshops Organisation) imposes a strain on the Railway Administrations which they cannot bear without serious detriment to their efficiency. They cannot continue to spare indefinitely their administrators and other staff. The almost continuous dissatisfaction which they cause in one way or another, tends to alienate the workers from the management to an ever increasing extent." (Para 104—page 57).
- "Nor can they ever be expected to satisfy the workers. In food-stuffs especially, it is essential that every one should be able to choose the quality of article one likes, be free to purchase such quantity of any item as one may need at any time and above all, one should be able to purchase them at one's convenience. It is impossible for the Railway Grainshops to fulfil any of these requirements." (Para 105—page 57).
- "Even worse than the compulsion and lack of choice relating to quality and quantity, is the inconvenience to the worker." (Para 106—page 58).
- "These defects are inherent in any system of concessional shops each catering to thousands of workers and supplying large number of articles." (Para 107—page 58).
- "We have, therefore, no hesitation in coming to the conclusion that there can be no question of retaining the grainshops as a permanent part of the Railway Administration." (Para 100—page 59).

The criticism of the RGIC briefly is that the procurement, inspection and distribution of commodities have been unsatisfactory and have come in for severe criticism and that, in addition, there are charges of corruption against the staff. There is considerable false declaration as to the number constituting the family, particularly in the case of dependents; resale of articles is common, the Vigilance, Managing and Purchase Committees have not been successful, and in fact, the whole atmosphere is saturated with corruption. Most of these defects we consider are inherent in the system and there is no direct remedy against these evils.

222. *Main Recommendation of the RGIC*.—The RGIC in paragraph 109 of their report, state that they have "no hesitation in coming to the conclusion that there can be no question of retaining the grainshops as a permanent part of the railway administration." However, the Committee did not see their way to recommend the early closing down of grainshops organisation. They considered that, owing to the fact that the grainshops have been in existence for over five years, "the agencies which used to supply to the railway worker, especially where they are concentrated in considerable numbers, have disappeared" and they also state that "as the transition from a control to a decentral economy is not yet complete, the fluctuations in the prices are still considerable and having been accustomed to regulate his domestic budget on the basis of fixed prices obtainable at the railway grainshops, the railway worker may find it difficult to balance his domestic budget." The Committee then proceed to make certain proposals for carrying on the grainshops organisation on a somewhat restricted scale and they also set out an individual option scheme which, they hope, would enable the railways to curtail the activities of the grainshops organisation, and so to reduce the inherent loss and wastefulness.

223. *Comments on the Report and recommendations*.—While we appreciate the sentiments which have led the Committee to make these recommendations, we are not in agreement with them. We feel that in view of the serious dissatisfaction among the workers and the abuses that have been brought to light by the RGIC, no solution short of the early and complete liquidation of the grainshops organisation, can be regarded as satisfactory. Their continuance will increase the dissatisfaction and irritation that exist among the workers and worsen the relations between them and the railway administrations. We also feel that provided reasonable notice is given of the date for the closing down of the grainshops, agencies such as bazars and stores where workers used to purchase their supplies before the opening of the grainshops, would establish themselves much sooner than the RGIC think. Further, we have hopes that it may be possible to form co-operative societies in some of the larger centres to carry on the grainshops on a co-operative fair price basis. We, therefore, recommend that steps should be taken to end the grainshops organisation as it exists today and to absolve railways of all responsibility for running the grainshops. We are of opinion that an interval of four months between the announcement of the Government's decision and the actual date for the closing down of the grainshops organisation should be sufficient for the purpose referred to above.

In that case, the question arises as to what should be the dearness allowance the Railwaymen should get. In spite of all the shortcomings and defects of the present grainshops organisation, there is no gainsaying the fact that the staff have obtained considerable assistance from the grainshops and have enjoyed a large measure of relief in kind, though we doubt if this measure of relief is as great as it has sometimes been stated to be. We think that when the grainshops organisation closes down, the staff should be compensated for the loss of this measure of relief which they are obtaining. Our proposals on this subject are contained later in this Chapter.

We consider that the first general basis of compensation will be to give to railway workers the scale of dearness allowance as now paid to

other Central Government employees. We also recommend that payment according to this scale of dearness allowance should be credited to the staff with effect from a date 15 days prior to the date fixed for the stoppage of the concessional sales. Although the cost of this concession will not be inconsiderable, we regard this as important, in order that the cash paid to the staff may increase immediately on the closing down of the grainshops without the time lag which would otherwise occur.

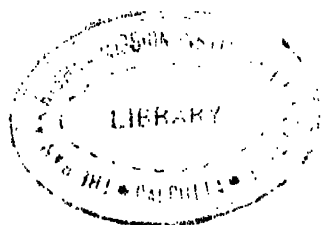
We have no doubt that the present relief in kind plus the present cash dearness allowance gives a greater measure of relief to railway staff consider that in addition to the cash dearness allowance as paid to other Central Government workers, some additional relief will have to be given, at any rate for a limited period.

In order to arrive at the quantum of this additional relief, it becomes essential to attempt to evaluate the general measure of relief in kind at present enjoyed by railway workers. We realise the difficulties of doing this with absolute accuracy, but we feel that an effort must be made. It will not be possible to justify, either from the point of view of the Government or the workers, any particular scheme of additional relief unless it can be shown that this scheme is designed to give benefits reasonably closely corresponding to the degree of benefit at present enjoyed. We consider that the cash benefit which should be paid to railwaymen after the closing of the grainshops should be based on the expenditure that the railways are incurring at present in running the grainshop organisation, minus the overhead expenditure and expenditure which is manifestly wasteful.

We accept the estimate of the RGIC that the cost of overhead expenditure is equivalent to Rs. 34 per ration card per annum. We also agree that unnecessary and wasteful expenditure has been incurred by the railways owing to purchase of commodities at prices above their market value and we estimate that the losses from this cause cannot be less than Rs. 1

We, therefore, recommend that the present annual value of the grainshop relief in kind to the workers should, as proposed above, be considered as equivalent to the present annual railway loss less the deductions for overheads and wasteful expenditure. We should also deduct from this the amount by which the dearness allowance that railwaymen would be entitled to on the same scale as that now applicable to other Central Government employees would exceed the dearness allowance now received by railwaymen. The difference between these figures will give the value of the additional relief now enjoyed by railwaymen which, we recommend, should be made good to them by some form of marginal relief. As we are unable to arrive at a reliable figure for the gross annual value of the marginal relief, we do not attempt to make suggestions as to the way in which it should be distributed and we recommend that Government should work out the figures and then discuss the method of distribution with organised railway labour. We also recommend that only the permanent staff, and the temporary staff who have completed one year's service by the date the grainshops close down, whose substantive pay does not exceed Rs. 250 p.m., and casual labourers who on the same date are in possession of concessional ration cards and will by then have completed one year's continuous service, should be eligible to participate in the distribution of marginal relief. We further recommend that this scheme of marginal relief should apply for 12 months only after the closure of the grainshops and that before the end of this period the situation should be reviewed. We hope that it will then be possible to bring the railwaymen and other Central Government servants on to a common scale of benefits. Further, should, during this period of 12 months, any increase in the dearness allowance be given to the Central Government employees, the marginal relief should be absorbed in this increase.

One reason for fixing an interval of four months between the date of Government announcement and the actual closing date of grainshops



organisation is to give a reasonable time for the formation of Co-operative Societies, where such do not already exist, to take over shops and run them as Fair Price Shops for the benefit of the staff. Where the staff do not wish to have co-operative societies, it is suggested that railways may consider leasing the shops to established shop keepers. In either case, on the closing of the grainshops, the railway should make over stocks to them at market rates. Where neither of these courses is adopted, it will be necessary for the railways to liquidate the stocks to the best advantage.

224. *Staff.*—In order to avoid further loss, it is extremely important that the grainshop staff should be disbanded as quickly as possible after the closing of the grainshops: According to our information the numbers involved are:—

Officers . . . . .	65
Class III temporary . . . . .	8,382
Class III permanent . . . . .	1,282
Class IV temporary . . . . .	10,372
Class IV permanent . . . . .	110
Total of Class III & Class IV together . . . . .	20,146

As the permanent staff will resume their substantive posts and will displace temporary staff, the total numbers who will become surplus will, therefore, amount to 20,146, subject to any adjustments that may take place from now and the date of closing down of grainshops. In cases where the working of the grainshops is continued either by co-operative societies or other agencies some of these men may be re-employed by the new management. It will be necessary for each railway to obtain details of such cases as early as possible so as to form a clear estimate of the number and categories of staff who will become surplus. Where possible, the surplus staff should be given the option of re-engagement against vacancies arising out of the implementation of the Adjudicator's Award, if they offers to them for their absorption. General Managers should be given discretion to relax age and minimum educational qualifications and to make such appointments themselves without reference to the Service Commissions. Staff who do not accept re-employment in such vacancies or who are found unsuitable should be paid up and dispensed with. We suggest that the Board should call for monthly statements, after the closing of the grainshops, of the progress made by each railway in re-employing or dispensing with the grainshop staff.

In view of his position as the General Secretary of the All India Railwaymen's Federation, Mr. Guruswami regrets that he is unable to commit himself to these recommendations.

## CHAPTER XV.

### MISCELLANEOUS MATTERS.

#### A. Railway Clearing Accounts Office

225. *Historical Review.*—The question of the establishment of a Clearing Accounts Office for the accounting of inter-railway earnings in India, came under consideration from time to time. A committee of Audit Officers of the Indian Railway Conference Association, which examined the question in 1912, concluded that—

- (i) one Clearing House for the whole of India was not practicable because of the great distances which would make it impossible to ensure the safe and timely arrival at the Clearing House of the station returns.
- (ii) the cost of the Clearing House would be slightly more than the cost of the corresponding Accounts Offices, and
- (iii) the Clearing House would entail extra work and cost at stations, as many returns would have to be duplicated and special returns introduced.

These conclusions were circulated to the Traffic Officers who concurred in the Audit Officers' views.

The question again received the attention of the Indian Railway Accounts Committee in 1920-21. That Committee consisted of four experienced Railway Accounts Officers who had been deputed to the United Kingdom and America to study the Accounts systems in vogue there. Three out of the four members of that Committee were against the formation of a Central Clearing House. The fourth member held that it would be possible to evolve a system of apportionment on a rate-ton-mile basis, and that with this basis and with mechanical appliances, a Clearing Accounts Office in India would be an economical proposition.

An experiment was conducted at Lahore in 1925, about the possibility of adjusting freight on through traffic on a ton-mile basis. It proved successful, and the Government decided in December, 1926, to establish a Clearing House for three years in the first instance, for the adjustment of foreign transactions of state-managed Railways in India, which at that time were four in number. The economies effected by opening the Clearing House were investigated in 1928 by two officers specially deputed for the purpose, and after examining the results of their investigations, Government sanctioned a Clearing Accounts Office, permanently, with effect from the 1st April 1929. It was also decided to locate the Clearing House at Delhi. This place was chosen primarily because of its central location, four big Railways passing through it.

When the Clearing Accounts Office started functioning in 1926, it was estimated that on the basis of an average monthly cost of Rs. 1,05,720, there would be a saving of Rs. 1,21,368 per annum. The Railway Retrenchment Sub-Committee of 1931, after considering a detailed note submitted to them by the Director of the Railway Clearing Accounts Office, stated that they could not conclude definitely that the institution of that office had resulted in any appreciable saving. They observed that as the main virtue claimed for centralisation was economy, there was a *prima facie* case for the abolition of that office and reversion to the old arrangement. They held, therefore, that if that office was to be retained, its expenditure should be reduced by at least one lakh of rupees a year. They also commented on the fact that the system under which the total cost at the end of the year was distributed in fixed proportions among different railways was not fair as the railways were saddled with expenditure outside their control and as it would leave no incentive to the Clearing Accounts Office to make further economies.

Immediately after the Railway Retrenchment Sub-Committee submitted its report, a reduction of Rs. 1 lakh in the annual expenditure was



effected by retrenchment in the staff. In 1938, the machine method of apportionment was discontinued and in its place the "grand summary method" was introduced. This resulted in a saving of another lakh of rupees per annum. The next expenditure on the Railway Clearing Accounts Office in 1939-40 was Rs. 16,76,000. At that time, the railways which were parties to the Clearing Accounts Office were the E.I., N.W., E.B., B.B. & C.I., and G.I.P. Railways, *i.e.*, in addition to the Government managed railways, the B.B. & C.I. Railway, which was a Company managed railway, had also joined the Clearing House. The other Company managed railways never joined the Clearing House, and in spite of the transfer of their management from Companies to Government, they are still managing their own foreign traffic accounts work. These railways are, the S.I., M. & S.M., B.N. and O.T. After partition of the country, Assam and E.P. Railways have been formed and both of them are parties to the Clearing Accounts Office. Thus, at the present moment five out of 9 Government Railways have joined the Clearing House, two of the five being small systems, as compared to the others.

The only Company managed railway (B.B. & C.I.) which joined the Clearing House, maintained a test audit staff to check the correctness of the adjustments made by the Clearing Accounts Office. The Test Audit was discontinued by it on its management being taken over by Government in 1942. So long as there was this test audit, it paid that railway to incur expenditure on it, as the extra earnings due to mistakes committed by the Clearing House and detected by the Test Audit Staff were large enough.

In 1940, the question of constructing quarters for the staff of the Clearing Accounts Office at Delhi came up for consideration. In that connection the desirability of continuing the centralised Clearing House at Delhi came up for discussion, and was referred to the Indian Railway Conference Association. The Railways were asked for their opinions. The Company managed railways, including the B.B. & C.I., were mostly in favour of not having a centralised accounts office, while the Government managed railways were in favour of continuing the central office.

The B.B. & C.I. Railway gave a statement showing (i) the cost incurred by it before the transfer of the Foreign Traffic Accounts work to the Railway Clearing Accounts Office, (ii) the amount payable to the Clearing House plus the cost of the test check and the extra staff appointed in the Traffic Department, to supply the information and the documents required by the Railway Clearing Accounts Office, and (iii) an estimate of what it would cost if the whole work should be retransferred to the B.B. & C.I. The actual cost to the Railway under the centralised system was Rs. 3,42,800 per annum. The cost incurred before the transfer of the Foreign Traffic Accounts work was Rs. 3,31,732 per annum. The estimated cost if the whole work were to be transferred back to the Railway was Rs. 3,26,005 per annum. The B. N. Railway quoted certain figures from which it could be seen that approximately Rs. 80,000 a year net had to be claimed by that Railway on checking the work of the Clearing Accounts Office. It too held that decentralisation would result in economy, as only 160 clerks were employed by it for the corresponding work against 1525 clerks employed in the Clearing Accounts Office, for the E.I., E.B., G.I.P., N.W., and B.B. & C.I. Railways.

The joint Committee of Audit and Accounts and Commercial Committees of the Indian Railway Conference Association were of the opinion—*vide* their resolution A-208 of the 26th July 1941—that the savings or additional expenditure resulting from decentralisation were not likely to be of sufficient importance to justify a decision being made on a financial basis only, and that the then existing arrangements might be continued subject to reconsideration after the war. They recommended that the post of Director, Railway Clearing Accounts Office should be held as a tenure appointment for not less than 4 years, as the efficiency of the office had suffered through lack of continuity in higher supervision. The Railway Board, however, desired that a decision should be arrived at on the intrinsic merits

of the case and requested the Indian Railway Conference Association to reconsider the matter and submit their recommendations. The Audit and Accounts and Commercial Committees jointly recommended in their resolution C/523 of July 1942 that the Clearing Accounts Office should be retained permanently, as "decentralisation would involve additional expenditure, the amount of which would be considerable and cannot be closely estimated", and suggested two improvements namely :

- (1) strengthening of supervision; and
- (2) more central location of the office and/or the establishment of Regional Offices.

It is relevant in this connection to reproduce an extract from a note recorded by the Financial Commissioner for Railways (Sir Bertie Staig), in March 1941.—

"It is not perhaps so much a question of a positive good, as of the lesser of the two evils; now that the Clearing Accounts Office has been set up and efforts made to make the best of what was probably originally a mistake, it may be wise to retain, but unwise to extend it. Those who have a detailed knowledge of its inception appear to think that it was set up, not in response to a direct obvious need for a Clearing Office, but a corollary to a desire, prevalent in certain quarters at the time, to increase the openings for machine accounting."

Sir Bertie Staig considered it unwise to extend the Clearing Accounts Office, that is, to admit as parties thereto the Railways (M. & S.M., S.I., B. & N.W., and B.N.), that were not then parties to that institution. In the note prepared by the Director, the Railway Clearing Accounts Office, for the Railway Retrenchment Sub-Committee of 1931, he had stated that the advantages of the Clearing System could be fully realised only if as many railways were party to the Clearing House as possible. He had also stated that idea all along had been eventually to entrust to the Clearing House not only the check and adjustment of through traffic, but also the work relating to the local traffic of all the State-managed Railways, and of as many Company Railways as were prepared to join the scheme. It was, however, felt even then that the concentration of so much work in a single office would make it unwieldy and it was suggested that a branch of the Clearing House might be opened at Madras if the Railways in South India were prepared to join the Clearing House. The idea of opening a branch office at other places, *e.g.*, Calcutta, was also considered on some other occasions. But the matter was never pursued to a finality and no branch office was ever opened at any place.

226. *The present Organisation of the Office.*—Leaving out the Gazetted Officers and Class IV employees, the number of staff (including accountants and clerks) from 1931-32 onwards was as shown in the following statement :

	Permanent	Temporary	Total
1931-32	1093	162	1255
1932-33	1101	97	1198
1933-34	1110	64	1174
1934-35	1104	117	1221
1935-36	1102	133	1235
1936-37	1180	57	1237
1937-38	1181	52	1233
1938-39	1183	52	1235
1939-40	1183	64	1247
1940-41	1204	65	1269
1941-42	1221	138	1359
1942-43	1221	219	1440
1943-44	1267	364	1631
1944-45	1263	909	2172
1945-46	1236	671	1907
1946-47	1207	760	1967
1947-48	1207	760	1967
1948-49			1700

approximately.

Owing to the size of the office, it was difficult to maintain proper discipline, and in spite of the best efforts of successive Directors, work in that office was very often found to be not up to the requisite standard of efficiency. The Railways have complained about the inordinate delays on the part of the Clearing Accounts Office. The experience of the B.B. & C.I. of the results of the test audit that they were doing up to 1942, was that the quality of the work done in the Clearing Accounts Office was unsatisfactory. Inefficiency in the Office was, doubtless, partly due to the impossibility of accommodating the entire office in one building. The Office was set on fire twice during the last six years, and on the latter occasion enormous damage was done. After the last fire, a large part of the office had to be accommodated in tents, until certain residential quarters, which were under construction, became ready for occupation, when the office was shifted to those quarters. At the present moment, the entire office has been located in about 120 residential units at Kishengunj in addition to two office blocks left over after the fire.

It can readily be understood that it is almost impossible to maintain efficiency or discipline in an office scattered over so many buildings. If the entire office is to be at one place, there is no doubt that a self-contained building to house the entire office must be constructed. It is understood that there is a proposal to construct such a building, and quarters for about 500 members of the staff, the whole scheme being estimated to cost about Rs. 87 lakhs.

Two reasons have been given for locating the office at Delhi, namely, that four Railways converge at Delhi and that the advice of the Director of Accounts whose headquarters are also at Delhi, will be available to the Director, Railway Clearing Accounts Office, estimates that the additional that any advantage can result from a number of Railways converging at the station at which the Clearing House is located. The Clearing House deals with documents received from all the stations of the Railways participating in it, and with the Accounting Offices of those Railways. It does not make any difference in the nature or the volume of the work, whether four Railways converge at the station in which the Clearing Office is located, or only two. Again the Director of the Clearing Accounts Office is of the rank of a Financial Adviser and C.A.O. and should not stand in need of advice from the Director of Accounts at Delhi, any more than the Chief Accounts Officer of a Railway does. Neither of the advantages claimed for the location of the Office at Delhi has therefore any reality.

Delhi is at present over-congested and attempts are being made to transfer some offices to other stations. Besides owing to the partition of the country Delhi can no longer be considered to be central. The Railway Clearing Accounts Office has very little day to day contact with the Secretariat Offices or even with the Railway Board. Any proposal for its dispersal scheme of Government will necessarily involve the transfer of staff with all its attendant difficulties and complications. Therefore, even if it is necessary to continue the Clearing Accounts Office it would be distinctly advantageous to construct an office building and staff quarters at some central place like Nagpur. This can, in fact, form part of Government's dispersal scheme.

**227. Advantages and Disadvantages of a Centralised Office.**—Certain advantages other than that of economy claimed for a centralised office, are dealt with below :—

Advantages claimed.

How far the advantages have materialised

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| <p>(1) All documents, inward, or outward, are available readily in one place. This avoids references to stations and Railways. There is also continuity in work.</p> | <p>(1) This advantage has been achieved to the extent to which the Railway have joined the Clearing House. As all Railways are not yet parties to the Clearing House, different systems of checking inward and outward documents have necessarily to continue.</p> |
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| <p>(2) Centralisation would facilitate mechanisation of Accounts and Statistics, which should result in quicker and more accurate working.</p> <p>(3) Apportionment work can be entrusted to a neutral body, and therefore, should be acceptable to the participating railways without question.</p> <p>(4) The accounts can be closed earlier . . . .</p> | <p>(2) Although mechanisation was introduced in the beginning, it was given up in 1938.</p> <p>(3) This advantage has not materialised as has been established by the result of test audit check which the B. B. &amp; C. I. Railway conducted on the apportionment work of the Railway Clearing Accounts Office.</p> <p>(4) The Clearing Accounts Office failed badly in regard to this. Very frequently the participating railways have had to close their accounts with approximate figures which varied largely from the actual figures, that were produced later, the difference often amounting to several lakhs of rupees.</p> |
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As against the advantages referred to above, we should set off the disadvantages resulting from the establishment of the central office. More time is taken in transit of documents between the central office and railway stations. There are greater chances of returns being lost both on account of the distance between the despatching and receiving offices, and on account of the fact that in a crowded office like the Clearing Accounts Office, there is a greater chance of documents being mislaid. The fact that the General Managers have no control over the centralised organisation and the expenditure incurred on it and that there is no incentive to economy and other improvements was commented on by the Railway Retrenchment Sub-Committee of 1931, *vide* paragraph 87 of their Report. The difficulties caused by an unwieldy office scattered over a number of buildings have already been referred to in a previous paragraph.

Even with the present centralised office, all the Government Railways are not parties to the Clearing House. As matters stand at present, it is impossible to let more Railways join the Clearing House. The present arrangement, under which five only out of nine Indian Railways are members of the Clearing House, therefore is an unsatisfactory one and there is no possibility of any of the other four Railways coming in. The Financial Commissioner, when questioned on this point, admitted that the position was unsatisfactory.

We have considered the advantages and disadvantages of a central Clearing Office for the purpose of checking the earnings and apportioning them among the railways. We are impressed with the benefits accruing from the establishment of an efficient central organisation for this purpose, but they cannot be realised under the conditions obtaining at present in the Clearing Accounts Office, Delhi. We have referred to the unwieldy nature of the office and the consequent inefficiency but we do not consider that these difficulties are unsurmountable; probably, the provision of a proper office building will remove some of the defects, and an office with approximately 2,000 clerks should not be incapable of proper and satisfactory management.

We are, however, of the opinion that the full advantages of a centralised Clearing Office can only be achieved if all the Indian Government Railways participate, in which case, incidentally, there will be no need for the exchange of "Division Sheets." Under the present system of working, it has been estimated that if the other four Railways also join this scheme, the number of additional staff that would be needed in this office will be approximately between 850 and 1,000. An office which is already considered unwieldy will become far more so by the addition of these men.

228. *Simplification of Apportionment of Earnings.* So far, the various questions relating to the Foreign Traffic Accounts work on railways have been considered on the assumption that a meticulous apportionment of earnings among different Railways is necessary. There is

no doubt whatsoever that it was essential when several major Railways were managed by Companies. But all the major railways in India are now managed by Government, and the question of the meticulous apportionment of earnings is not as important now as it was a few years ago. The Financial Commissioner, who was questioned on this point, stated that apportionment was not the most important work of the Clearing Accounts Office, but that so long as there were separate Railway Administrations which were separate Operating and Commercial units, it was necessary to know the earnings of each of the Railway systems. In a note submitted by the Director, Railway Clearing Accounts Office, to the Railway Retrenchment Sub-Committee of 1931, he reported that the cost of the apportionment of the traffic among the State-managed Railways was about Rs. 6,000 per mensem. The number engaged in this work at present is estimated to be 250.

We have given thought to this question and consider that, with practically all the railways under Government management, the apportionment work should be greatly simplified. We might have recommended the apportionment between the Government railways being dispensed with altogether, but we do not do so as the efficiency and working of the individual railways are still judged by the financial results obtained by them. There are two simple methods of apportionment that suggest themselves to us:—

- (a) Percentage allocation of earnings among the railways on the basis of the past figures with occasional test checks of the earnings of one railway each year.
- (b) Allocation on the basis of commodity ton miles.

**229. Recommendation.**—We do not wish to give preference to either of these two methods, but we have been told by the Director, Railway Clearing Office, that the adoption of either would maintain a reasonable degree of accuracy and would result in saving in staff to the extent of about 200 men, in the Clearing Accounts Office. In other words, if a simpler method of apportionment is agreed to, the total strength of staff in the Clearing Accounts Office, for the Railways which have joined it, will be approximately 1,500. If the other four railways too join it, the Director, Railway Clearing Accounts Office, estimates that the additional number of clerks that would be needed in his office, will be about 200. Even if we take a higher figure, say 300, the total strength of the Clearing Accounts Office would then be approximately 1,800. With proper office accommodation, we do not consider that it should be difficult to manage efficiently an office with a staff of this size. We, therefore, recommend that...

- (i) the method of apportionment of earnings between the Indian Government Railways should be simplified to reduce work; and
- (ii) if this is accepted, the other Indian Government Railways, which are not parties to the Clearing Office, should also be brought in and the Railway Clearing Accounts Office should be retained as a permanent measure.

For the reasons given in paragraphs 226 and 227 and in view of Resolution A/222 of the Indian Railway Conference Association (November 1942 Conference) that "among the improvements possible are..... (ii) a more central location of the office and/or the establishment of regional offices," we consider that the retention of the Railway Clearing Accounts Office at Delhi should be only temporary; eventually the office should be moved to a more central and uncongested but healthy area. While we do not wish to make any recommendation about the exact future location of this office, we consider that a place close to Nagpur would be eminently suitable. Betul, a station between Nagpur and Itarsi, has been suggested as suitable.

**230. Alternative Recommendation.**—If, however, the Government do not consider it feasible to give effect to the recommendations contained in paragraph 229 we are of the opinion that the full advantage of an efficient central Clearing Office cannot be reaped by the railways, and

there would be no advantage whatsoever in keeping an office of the type at present existing. In that case, decentralisation of the Foreign Accounts work seems to us to be necessary. There is an Audit Office attached to the Railway Clearing Accounts Office, costing about two lakhs of rupees per annum. The Audit Office has at present two gazetted officers and 54 Class III staff. When the Foreign Traffic Accounts Office is decentralised, there will be no need for extra gazetted staff being given to the Audit Offices attached to the Railways. This would be an incidental saving.

It will be seen that we have recommended that the Railway Clearing Accounts Office should be retained only on the condition that all the Indian Government Railways join in the scheme. In that case the Foreign Accounts work now done on the O. T. Railway at Izatnagar, B. N. Railway at Calcutta, M. & S.M. at Madras and S.I. Railway at Trichinopoly, will have to be transferred to the Clearing Accounts Office, now at Delhi. This would entail a transfer of approximately 300 men from these places. If, on the other hand, the Government do not consider the simplification of apportionment between the Indian Government Railways as a practical proposition, decentralisation of this work will become necessary, and it would naturally cause inconvenience to the staff who are now located at Delhi. Thus, in neither of the two cases, would the transfer of the staff be satisfactory to those who will be affected by it.

The only course which would be satisfactory from the point of view of the staff, both at Delhi and elsewhere, will be to maintain the *status quo*, i.e., retain the Railway Clearing Accounts Office for the advantage of five out of the nine Indian Government Railways. We cannot recommend the perpetuation of such an arrangement for reasons already indicated in the preceding paragraph.

In the event of decentralisation, some railways have stated that the transfer of a large body of Foreign Traffic Accounts Office staff from Delhi would create for them a serious problem, both in respect of office accommodation and in respect of residential accommodation. If the Foreign Traffic Accounts Office had continued to remain with the individual Railways, the staff would have remained at their own stations, and fresh accommodation would obviously have been necessary for the offices which occupied the accommodation released by the transfer of the Foreign Traffic Accounts staff. The original accommodation would probably not have been adequate for the present needs. As against a central building to be constructed at Delhi or some other central place to accommodate about 2,000 men, individual railways will have to find accommodation for about three or four hundred men at some convenient place. It is not necessary that the Foreign Traffic Accounts Office of a Railway should be at its headquarter station. Any convenient station, easy of access, would do quite well. The problem of accommodation is, therefore, really simpler with decentralised offices than with a centralised one.

231. *Concluding Remarks*—If our recommendations given in paragraph 229 are accepted, we consider that a thorough job analysis of work should be undertaken and that the economies that can result from mechanisation should be investigated. We are of the opinion that a centralised office would be an ideal place for introducing mechanisation and we hope that considerable economies would ensue in consequence of it.

The Indian Railway Conference Association recommended in 1941 that the Director of the Railway Clearing Accounts Office should normally be left undisturbed for four years. The Director, who was holding charge at that time, continued to do so till May 1945. But since then, transfers have been rapid and seven changes have taken place. These changes were, to some extent, perhaps, unavoidable. But it is difficult to understand why, with proper planning, the suggestion of the I.R.C.A. could not have been given effect to in the interests of the continuity of supervisory work.

In the event of our suggestion for a centralised office being agreed to, we consider it important that a Director whose status should not be lower

than that of the Chief Accounts Officer, should be posted to the Clearing Accounts Office, and should be allowed to continue in the post for a number of years to ensure smooth working.

### B. Statistics.

232. The Wedgwood Committee, in 1937, devoted considerable attention to the questions of statistics, and recommended that—

- “(i) the existing system of statistics should be reviewed with the object of increasing their usefulness and reducing the cost of compilation;
- (ii) the periodical conferences of Statistical Officers, which were discontinued since 1931, on the ground of economy, should be resumed;
- (iii) a Statistical Officer should be reinstated in the Railway Board's office, and that the statistical organisation of some railways, from the point of view of interpretation, should be strengthened.”

While we are aware that action on recommendation (iii) above was taken some time ago, the conference of statistical officers referred to in (ii) above has only begun recently. So far as we are aware, action on recommendation (i) above has not yet been taken.

The existing statistical set up dates from 1924. Many of the important railways then appointed their own statistical officers for the purpose of compiling and interpreting statistics. Unfortunately, with the advent of the economy campaign in 1931, these posts were abolished except on four railways, which continued Statistical Officers as part of their organisation. On the other railways, in the words of the Wedgwood Committee, “the effect of the retrenchment is obvious since it has led to an enforced neglect of statistics on the side of interpretation. It has been admitted to us that with the abolition of statistical officers on railways, there are now very few officers who are thoroughly conversant with the statistics”. They went to the extent of stating that “it is unwarrantable waste of energy and money to prepare every month, and every year, volumes of statistics, which are, put to little or no use.” (Paragraph 99 of the Wedgwood Committee Report.) In the Board's office, the compilation work was transferred to the Controller of Railway Accounts with a nucleus staff retained in the Board's office, as part time charge of the Deputy Director, Traffic. We consider that these retrenchments in 1931, were the result of a very short-sighted policy.

On receipt of the Wedgwood Committee Report, the Railway Board considered the necessity of a reorganisation of the statistical section and as a preliminary step they retransferred the work from the Controller of Railway Accounts to the Board. The posts of Statistical Officers were also revived on some of the railways, on which they had been abolished and at present such officers exist on all railways except the E. P. and G. I. P. Railways. We recommend that each railway should have a separate Statistical Officer, whose main function should be, firstly, to ensure that the compilation is made correctly and promptly and second to correlate, interpret and review the statistics from time to time. These duties have been elaborated in the following paragraphs.

233 *Statistical Organisation.*—We are glad to find that the S.I. Railway compiles and publishes all fundamental statistical units and operating statistics for each month by the 10th of the following month. Statistics of coal and oil consumption and locomotive user are also similarly compiled and published soon afterwards. These statistics are then interpreted and reviewed, both by gauges and by districts, by the Statistical Officer. Regular discussions then take place, firstly at the headquarters, and secondly on the districts, where the Statistical Officer brings to the notice of the officers concerned the salient points relating to improvement or deterioration in operation and changes in trends of traffic. The reasons are discussed in detail and where necessary, remedial measures decided upon.

On the other hand, it is stated that on the G.I.P. Railway, the Statistical Compilation Branch, which is in charge of an Assistant Accounts Officer, deals with the compilation of statistics only. The Statistical Co-ordination Officer (part-time) is entrusted with the duty of interpreting the statistics. The Deputy Transportation Superintendents, Power, Goods and Coaching, interpret and use the statistics in the normal course of their duties; the Traction Superintendent similarly interprets and uses statistics relating to the operation of electric locomotives.

We consider that the organisation in force on the S. I. Railway for the prompt compilation of statistics should be emulated by the other railways. We are aware of the different sizes of the railways and realise that what is possible on a small railway might not be so on a large straggling railway; but we do not believe that the time taken for the compilation of these domestic statistics should, on such railways, be very much longer than on the S.I. Railway. On the question of interpretation also we would favour the system followed by the S. I. Railway, under which the Statistical Officer compiles, interprets and reviews the statistics and brings to the notice of the departmental officers the salient points emerging from these statistics. Further examination of these statistics and reviews should naturally form the responsibility of the departmental and executive officers. We attach very great importance to this and recommend not only that there should be monthly statistical meetings, but that the remarks and comments of departmental and executive officers should invariably be discussed at the next monthly meeting. This would ensure continuity of action. The above recommendations should not be misunderstood to mean that the departmental and executive officers, particularly the Operating Officers, should only investigate the performance and efficiency of operation on receipt of the domestic statistics or reviews from the Statistical Officer.

These monthly statistics are not enough for the railways; the day-to-day statistics, that are usually compiled in the Traffic Control Offices on the railways, are in many ways far more important than the periodical or monthly statistics. The latter are certainly useful, but for the needs of the executive officer it is the statistics that he can get almost immediately afterwards which can be of greater value. Statistics relating to the punctuality of passenger trains, the speed and load of goods trains, the turnaround of wagons and wagon user, the loading and receipt of traffic, the performance in yards, engine utilisation, fuel consumption, etc., must continually be before the executive officers, so that any deterioration can be promptly attended to and defects remedied. We are aware that all railways keep these day-to-day statistics, but sometimes their importance is not realised and their maintenance merely regarded as a daily routine. We have, however, seen some officers, who have shown great keenness in the use of the statistics, and we are glad to note that with their constant analysis they have been able to produce improved results.

In our discussions with the Railway Board, it has been stressed that at present there is no adequate machinery for an examination of the statistics of performance in conjunction with those of expenditure. We attach importance to this correlation and consider that the statistical organisation in the Railway Board's office should be geared up to enable this to be done. We understand that the Statistics Branch in the Board's office, which was under the control of the Director of Traffic, was transferred to the Director of Accounts in December 1946, with a view to finding out a suitable method of doing this. The Transport Minister referred to this in his Budget Speech in February 1947, but unfortunately no fruitful action seems to have been taken so far. (We have dealt with this matter in paragraph 169, Chapter IX.) Nor does any serious progress appear to have been made in connection with accurate compilation and interpretation of the railway statistics; the position in respect of the arrears in the compilation of statistics in the Board's office since then is no better than it was.



**234. Revision of Statistics.**—The need for a reorientation of statistics is recognised all round. We are convinced that a systematic review will show certain statistics can be discontinued and that there are other statistics for which a simpler and cheaper method of compilation can be found. The review will also show the need for additional statistical information, particularly to measure efficiency in regard to certain matters *e.g.*, the working of terminals, the cost of handling at transshipment points, the cost of carrying coal. Some railways now attempt to calculate dependent costs, but the results are not reliable; a more accurate method should be devised. On the Commercial side, some of the statistics, such as the zonal statistics for important commodities, the flow of traffic over restricted routes and between points susceptible to competition, should afford guidance in regard to a sound commercial policy and practice. We also think that staff statistics by detailed categories should be compiled. We, therefore, recommend that the present statistics should be reviewed in accordance with the present day requirements. This review, should be continuous and directed towards keeping the statistics in conformity with the current needs.

**235. Qualifications of Statistical Officers.**—It is essential that the Statistical Officer in charge of the Statistical Branch in the Board's office should not only be thoroughly trained in statistical methods but should generally be conversant with the working of the railways too, particularly on the Operating and Commercial sides. His duties should, in the words of the Wedgwood Committee, be "to measure the effect of new policies or experiments; to co-ordinate the statistical work on the railways and generally to afford guidance in statistical matters to the railway administrations. It is essential that he should possess the requisite experience, and he should have a status that would enable him to make the fullest use of his special qualifications. We should like to see him stand in his relation to the Agents more as a consultant than as a critic." The final test of the efficient working of the railways is no doubt financial, but to increase the earnings, the operating efficiency and the constant search for new sources of revenue are needed. The correlation of indices of operating efficiency requires an 'operating sense' and this, we consider, is extremely essential for an officer in charge of statistics in the Board's office. He must also have a knowledge of railway working, particularly on the Commercial side.

**236. Railway Board Statistics.**—We now consider the statistics that are compiled in the Railway Board's office. They are:—

- (i) Yearly Board's reports— Volumes I and II.
- (ii) Quarterly—Claim Statistics.
- (iii) Monthly comparative abstracts of
  - (a) Operating and Commercial Statistics,
  - (b) Marshalling Yard Statistics,
  - (c) Locomotive, Carriage and Wagon Workshop repair statistics and cost of repairs and maintenance statistics,
  - (d) Commodity—tonnage carried and earnings statistics.
- (iv) Periodical (10-day) statements and summary etc of—
  - (a) Approximate earnings,
  - (b) Wagon loading and tonnage lifted,
  - (c) Wagon position in the pool received from I.R.C.A.

It has often been said that little use can be made of the yearly statistics, as they are very old and yearly comparisons are of little practical advantage. We do not entirely agree with these remarks. On the contrary, we consider that the annual figures provide a comprehensive survey of railway working year by year and are useful. As some of these statistics are of interest to the public, we suggest that a popular edition containing the more important statistics should be compiled and made available to the public at a suitable price. Such editions will disseminate accurate information among the public.

Quarterly and monthly abstracts and statistics are usually available months after the period to which they relate, and are, therefore, of little practical value. These statistics are available to the railways themselves much earlier, and it should, therefore, be possible for the Railway Board to collect and publish them without the delay that occurs now. The advantage of these compilations in the Board's office lies in their making inter-railway comparisons possible. These comparisons are advantageous, provided that the statistics are not "ancient" by the time they are published, and that they are regularly reviewed in the Railway Board's office.

**237. *Domestic Statistics.***—We have already commented on the organisation that should exist on the railways for the prompt preparation of accurate domestic statistics. We can only add that no uniformity in this regard need be aimed at. The domestic statistics, as the name implies, should give only those data that are considered necessary for the needs of the railway concerned. At the same time, we believe that there are a number of items that are common to all the railways, and we consider that the railways should exchange information between themselves, with a view to effecting improvement in their own methods of compilation and presentation of statistics. We are glad to note that the periodical conferences of Statistical Officers, which were discontinued in 1931, have recently been restarted, and the first conference took place in August this year. We consider that these meetings are useful and should be continued.

**238. *Training of Statistical Officers.***—We have already stressed the importance of a proper interpretation and review of statistics, not merely by the Statistical Officers but also by the departmental and executive officers. We consider it essential that all officers, particularly of the Transportation (Traffic) and (Power), and Commercial Departments should have a course of training in the use of Statistics. This training should form part of the curriculum for the qualifying examination for the promotion of officers to the senior scale.

**239. *Statistical Manual.***—We have recommended a number of measures that should be taken to ensure that statistics are compiled correctly and promptly, but in order to facilitate this and to enable the officers, who have to use these statistics, to understand their significance easily, we recommend the preparation of a Statistical Manual, that would not only be a Manual of Instructions, but should set forth the meaning of the various units and the methods of employing them intelligently. A manual of this kind was prepared by the N. W. Railway and we understand that it has since been prepared by one or two other railways.

## CHAPTER XVI.

### SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS : ACKNOWLEDGMENTS.

240. *Summary of Conclusions and Recommendations.*—In the following paragraphs we summarise the principal conclusions and recommendations contained in our Report.

#### Chapter II.—General Survey of the Indian Government Railways.

(1) We make a broad financial and statistical survey of the Indian Government Railways since 1924. We conclude that the financial results so far cannot be considered satisfactory and the immediate future of the Railways can by no means be considered bright. (Paragraph 28.)

(2) The statistical survey of the major operating and rolling-stock statistics indicates, with minor exceptions, that there has been a substantial fall in the standard of efficiency and performance since 1938-39. During the war years the standard had improved but this was not maintained. (Paragraph 29.)

#### Chapter III—Civil Engineering.

##### *Track.*

(3) We recommend that the urgent relaying programmes should be implemented thus improving the standard of track sufficiently to meet the future demands. (Paragraph 31.)

(4) Track standards should not be raised merely to comply with new standards. Greater use of second hand released materials should be made. (Paragraph 32.)

(5) We recommend that investigations should be pushed forward for evolving lighter and modified sections of rails as standards for the Indian Railways. (Paragraph 33.)

(6) We recommend that similar investigation should be made to lighten metal sleepers. (Paragraph 34.)

(7) We recommend that researches as to the density of sleepers required under different conditions of traffic and types of rails and sleepers should be pursued. This would yield sufficient data to enable impressive economies being made. (Paragraph 35.)

(8) The tendency on some railways for increasing the temporary gang strength should be checked. We recommend that an officer should be placed on special duty to make a close study of the methods of track maintenance actually pursued by Railways, and reach conclusions. He should also ascertain best methods of utilising gang labour. (Paragraph 36.)

(9) Experiments with mechanical appliances for the maintenance of track should be pushed forward as early as possible. (Paragraph 37.)

(10) Experiments with mobile gangs should be pursued. (Paragraph 38.)

(11) We recommend that the gang lengths should be gradually increased to 4 miles which would economise the number of mates and keymen. (Paragraph 39.)

(12) The Special Officer recommended by us for investigating the system of track maintenance (see item 8 above) should also investigate the question of the economical ballast section for varying formations and conditions of traffic, climate, etc. Mechanical crushers may be used departmentally, if financially justified. Reputable contractors should be encouraged to go in for the use of these crushers. (Paragraph 40.)

(13) Experiments with the welding of rails should continue on a sufficiently large scale. The experience of other countries support the conclusion that economies would be substantial, in addition to making the running smoother and, therefore, more comfortable. (Paragraph 41).

(14) We recommend that vigorous research should be made on the problem of treatment of black cotton and other unstable soil and the best method of drainage of water-logged banks and cuttings. (Paragraph 42).

#### *Supervision.*

(15) Normally, a District Engineer's charge should be between 400 to 500 equated track miles and that of an Assistant Engineer between 150 to 200 miles. The average length of the beat of the Permanent-Way Inspector (P.W.I.) and Assistant or Sub P.W.I. should be about 45 equated track miles. (Paragraph 43.)

(16) We recommend that railways should obtain records of the condition of track by the use of test cars or Hallade Instrument twice a year and that the annotated records should be in the hands of the Permanent-Way supervising staff expeditiously. (Paragraph 44.)

#### *Manufacture of Equipment.*

(17) There is a tendency for perpetuating departmental manufacture of materials in Engineering Workshops, which cannot be justified either in the score of economy or availability. We urge periodical reviews. (Paragraph 45.)

(18) There is a wide scope for extensive reconditioning of track materials and tools; rails with battered ends can be re-used by cropping up the ends and welding them; sleepers, fishplates, points and crossings can be reconditioned and re-used. Pooling of information in this respect would be useful. (Paragraph 46.)

#### *Structural Maintenance*

(19) We recommend that the railways should carefully scrutinise details of expenditure on maintenance of buildings and the methods of maintenance, with a view to effect economies.

We recommend that research should be undertaken for evolving an economical and suitable design for buildings in the black cotton soil areas. (Paragraph 47.)

(20) The renewal of girders of bridges should be decided on condition basis. (Paragraph 48.)

#### *Control of Expenditure.*

(21) The possibility of control of expenditure on a unit-cost basis should be investigated as soon as prices stabilise. (See item 116 below.) (Paragraph 49.)

### Chapter IV - Mechanical Engineering.

#### *Locomotive Stock*

(22) The utilisation of locomotives on the Indian Government Railways in 1946-47 was low with the result that a substantial number was employed in excess, which could have been used for carrying additional traffic. On the basis of the performance of 1938-39, and with a reasonable number under or awaiting repairs (say 15 per cent. of stock), the percentage of locomotives used in excess would amount to about 10 per cent. of the total stock.

Another method for determining this excess is to base the calculation on the average number of engine miles per engine per day, actually reached in 1941-42. This is certainly capable of achievement and would yield a figure of 17 per cent. of the total stock as the measure of the excess. (Paragraphs 51-52.)

(23) The performance could have been even better, in spite of the deteriorated condition of the locomotives brought about through excessive wear and tear during the war years and the increasing age of locomotives  
(Paragraph 52.)

*Locomotive Repairs in Workshops.*

(24) All railways are heavily in arrears. This is alarming, particularly as the output from the workshops is much lower than their capacity and even below the current requirements of the railways. We realise the difficulties regarding the shortage of spare parts, etc., still the position is considered most unsatisfactory. Excluding the E. P. and Assam Railways, the workshop capacity is adequate.  
(Paragraph 54.)

*Coaching Stock.*

(25) The number of passenger coaches under or waiting repairs is high.  
(Paragraph 58.)

*Coaching Stock Repairs in Workshops and future outlook.*

(26) The shortage of passenger coaches is very acute which is the primary cause of the serious overcrowding. Further, a large proportion of such coaches is normally due to be replaced. We reckon that at a conservative estimate the passenger stock on the B. G. would require to be augmented by 25 per cent. and on the M. G. by 50 per cent. in the near future.  
(Paragraphs 61-63.)

While we appreciate the Railway Board's action in attempting to tap indigenous sources, we wish to emphasise that top priority should be given to the setting up of central workshops for the construction of coaching stock.  
(Paragraph 64.)

(27) All-steel coaches are likely to be put in service and we suggest that before reaching final conclusions experiments should be carried out in the hottest part of the country in the months of May and June.  
(Paragraph 65.)

We, however, stress the value of all-steel stock in that it has generally been found that in the event of a serious accident, all-steel stock is less liable to telescoping than is wooden-bodied stock. For the same reason, we recommend the fitting of automatic central couplers to the new 11'-8" stock.  
(Paragraph 66.)

*Wagon Stock and Repairs in Workshops.*

(28) The percentage of wagons immobilised for repairs is very high.  
(Paragraph 68.)

There has been a considerable deterioration in the output of repairs to wagons in workshops, with the result that over 20 per cent of the total stock is overdue periodical overhaul.  
(Paragraphs 69-70.)

*Workshop Organisation and Layout.*

(29) On the basis of the work performed in the workshops, measured by the number of standard repairs to locomotives and by the number of coaching stock and goods wagons given periodical overhaul, there appears to be a surplus of staff. We recommend a careful job analysis to ascertain the extent of the surplus, taking into consideration the present quantum of work, arrears of maintenance, and other relevant factors.  
(Paragraph 72.)

(30) Though some of the workshops require remodelling or modifications, which should be carried out without delay, in our opinion, the present deplorable condition of the workshops is largely attributable to faulty direction and management. (See item 35 below.)  
(Paragraphs 73-74.)

(31) We are impressed with the working of the 'Belt system' as it exists in the Khargpur Workshops of the B. N. Railway, and recommend that this system should be adopted whenever a new workshop is planned or constructed. When any major reconstruction of the existing Workshops

is undertaken, the principles underlying the 'Belt system' should be applied as far as possible.

We suggest that specified officers on supply mission abroad should be charged with the duty of purchasing, wherever available, machinery and equipment urgently required. (Paragraphs 75—76).

(32) The officers-in-charge of the workshops consider that the efficiency of railway workers has gone down considerably. Messrs. IBCON Ltd., also carried out time-study in certain of the shops at Khargpur and Jamalpur and reported about 50 per cent. labour utilisation.

To avoid retrenchment, the surplus staff should be removed and absorbed in other categories after giving them training in alternative appointments wherever necessary. (Paragraph 77).

(33) We consider that supervisors should be empowered to inflict punishment on staff for minor offences, subject to review afterwards. (See item 128 below).

We urge that the grievances of staff should be dealt with speedily and senior Government officials and leaders of public opinion should impress upon the railwaymen, by public speeches and propaganda, the responsibility that now devolves on them. (See items 125 and 126 below).

Simultaneously, effective steps should be taken to control and stabilise prices and making consumer goods available at reasonable rates. It is also imperative to pursue schemes of literacy in order to step up production. (See item 140 below).

Trade Unionism should be encouraged. There should be closer contact between the railway officers and the staff. (Paragraph 77).

(34) Refresher courses should be devised for the comparatively inexperienced men who have now to fill the role of Supervisors. (Paragraph 78).

The training facilities for the staff in mechanical workshops must be improved on almost all the railways. The period of training of trade apprentices who are given training in one specified trade only should be reduced.

We recommend that special supervisors should be appointed to guide and supervise the apprentices in their practical work in the workshops. Separate facilities for elementary practical training in the use of simple implements should also be provided. Unskilled staff ambitious to better their prospects should be encouraged to make use of these facilities in their spare time.

We agree to the policy of Government in recruiting engineering graduates as probationary Mechanical Engineers to meet with the shortage of officers, and recommend that the recruitment and training of special class apprentices at Jamalpur, which has proved so useful, should not be given up. (Paragraph 79).

(35) Where there is a persistent deterioration in the output in Workshops, the blame lies chiefly on the Head of the Department and his senior officers. We consider that it is possible to effect a substantial improvement in the output by able, wise and vigorous management. (See item 30 above). (Paragraph 80).

(36). In order to co-ordinate the principles and methods that have proved useful and advantageous in other workshops, an officer with considerable workshop experience should be appointed to carry out an investigation in this regard. (Paragraph 81).

*General matters pertaining to workshops.*

(37) We recommend that statistics on man-hour basis should be introduced for the different operations. There is no proper costing system in the workshops and its introduction should receive special consideration. (See item 116 below). (Paragraph 82)

(38) We recommend that priority for steel should be given to the railways and supplies assured to them. If necessary more steel might be imported. Timber is also in short supply. (See item 70 below). (Paragraphs 84—85)

(39) Effective action should be taken to ensure that no delay occurs in obtaining spares. Some of the Ordnance Factories have undertaken railway work; the progress of work should be continually watched.

When conditions return to normal and indigenous sources are increasingly available, railways should offload bulk of the manufacture of spare parts to private sources whenever it is economical to do so. (Paragraph 86).

(40) The Ministry of Industry and Supply should develop dependable sources for the manufacture of items like bolts, nuts, rivets, etc., which are still manufactured in the railway workshops; non-standard items should, however, continue to be manufactured. (Paragraph 87).

(41) We recommend that in the present circumstances, the replacement of locomotives should be made on a 40 year basis, subject, however, to rigid condition tests. (See item 75 below). (Paragraph 89).

(42) Special steps should be taken to expedite modifications to Pacific type locomotives without undue delay.

Bulk orders for the remaining new W.P. Class locomotives should be placed only after the engines already received have been fully tested and modifications have proved effective in service. (Paragraph 90).

#### *Running sheds.*

(43) The maintenance of locomotives in running sheds requires to be improved, particularly on some railways. (Paragraph 91).

(44) On account of the inexperienced supervisory staff, we do not at present recommend any new and large concentration of locomotives in running sheds. (See item 74 below). Paragraph 92).

(45) There is need for intermediate repairs in sheds at the present time. When the present arrears are overtaken, an investigation should be made whether intermediate repairs are at all necessary. (Paragraph 93).

(46) The most economical method of loading coal into the tenders of locomotives should be investigated. (Paragraph 94).

(47) Every engine failure should be critically examined and suitable measures taken. In the case of defective designs and persistent unsatisfactory maintenance, steps should be taken to carry out the necessary alteration in design or the possible change in procedure. We recommend the introduction of the "Casualty League" competition in vogue on the B. N. Railway to minimise engine failures. (Paragraph 96).

In view of the shortage of skilled staff, it is imperative to recruit a sufficiently large number of apprentices and to give them a period of combined training in workshops, running sheds and technical schools, as on the G.I.P. Railway. (Paragraph 97).

(48) In the present circumstances, the Chief Mechanical Engineer should be responsible for repairs and maintenance of locomotives in running sheds. We consider that the control of all **mechanical work** and personnel in running sheds should rest on the Chief Mechanical Engineer. Sir George Cuffe, while agreeing that this is unavoidable at present, is of the opinion that when conditions return to normal and arrears of maintenance have been made up, the Chief Mechanical Engineers should not be responsible for the maintenance and repairs in running sheds and that this responsibility should be completely transferred to the Operating Department. (Paragraph 98).

(49) To ensure expeditions supply of materials, we recommend that periodic meetings should take place between the Workshops, Stores and District Officers. (Paragraph 99).

(50) Sheds having defective layout and inadequate equipment should be rectified and necessary facilities provided on a programme basis. Running Shed buildings, floors and locomotive yard should be satisfactorily maintained and brightened up by paint and whitewash where necessary.

(Paragraph 100).

## Chapter V—Operation

*General :*

(51) The railway transport situation in the country is still unsatisfactory. (Paragraph 101).

(52) In spite of the increasing number of locomotives and wagons, the tonnage of goods handled has declined. There has been a large increase in the number of passengers carried, but at the expense of serious overcrowding. The falling off in the railways' ability to move goods traffic at the war time level is to a large extent due to reduced efficiency and reduced output of work by staff, and partly to a lack of proper initiative, direction and guidance from the top. (Paragraph 102).

*Organisation :*

(53) We consider that all officers and staff, both technical and non-technical, dealing with the actual movement of traffic, should belong to one Operating Department or Branch. (See item 48 above). (Paragraph 103).

*Operation of goods traffic :*

(54) The wagon user as indicated by the turn-round, wagon miles per wagon day, and net ton miles per wagon day, shows considerable deterioration in recent years. If only the standard of wagon user that was achieved in 1944-45, could be maintained during the subsequent years, railways could have moved approximately 20 to 30 per cent. additional traffic. (Paragraph 105).

(55) The principal factors restricting the movement of goods traffic are the inadequacy of facilities at terminals, inordinate delays in marshalling yards, sectional delays, delays at break of gauge transshipment, particularly at interchange points and the restricted capacity on certain sections. (Paragraph 106).

(56) We recommend that in the case of major cities where shortage of terminal capacity is manifest, early action should be taken to review the present and future requirements and to formulate plans for improving terminal facilities. In some cases this may be very expensive, but it must be faced. (Paragraph 107).

(57) We recommend that yard remodelling should be deferred until it has been demonstrated that the available facilities are being efficiently used to capacity and provision of additional facilities, will with certainty enable more traffic to be handled. (Paragraph 108).

(58) Supervisory staff in yards is very often poorly selected and inefficiently trained, and has little chance of further advancement. Movement officers also do not devote sufficient time to study the work—routine in yards. These defects must be rectified. Staff should be selected with care, properly remunerated and their advancement ensured. (Paragraph 109).

(59) We suggest that the Class IV staff in a yard should be eligible for promotion to yard number taker's posts provided they are sufficiently literate. (Paragraph 109).

(60) Modernising yard communication might, in some cases, improve efficiency of working and accordingly be justified. (Paragraph 110).

(61) The reasons for delays to trains *en route* are many and varied. Lack of energy and attention of traffic staff, lack of supervision and poor controlling of traffic are the worst features. Regular analysis of control charts should be made and action taken on the results of the analysis. (Paragraph 111).

(62) There are 53 break of gauge transshipment points which cause delay to traffic. The reasons are usually labour difficulties, shortage of accommodation, difficulties over ensuring adequate wagons of the required gauge, etc.

We recommend that a small technical committee of senior officers should be set up in three years time to examine the gauge question generally and to make recommendations for gauge conversion with the object of reducing the number of transshipment points. (Paragraph 112).

(63) Stock Reports giving all working details relating to goods traffic are summarised and seen by officers every day, but these reports are not



always carefully analysed: analysis is required to discover where wagons are being delayed. (Paragraph 113).

(64) A reduction and standardisation of the load of goods train with the object of increasing speed, thereby improving locomotive utilisation and wagon turnround is not likely to succeed at present.

There are limits to the value of long distance marshalling. We consider that the practice of loading full rakes or half rakes in the coalfields to single destination is to be recommended. (Paragraph 114).

(65) The suggestion to mark up the carrying capacity of wagons is not advocated. (Paragraph 115).

(66) The practice of nominated loading should be extended. (See item 93 below). (Paragraph 116).

(67) Scheduling of goods trains by itself is not a panacea for all ills, but we consider that there is a good case for extending the practice. (Paragraph 117).

(68) To secure a good general standard of maintenance it is recommended that neutral control stations should be located at points where large numbers of wagons are dealt with daily, and where adequate repair facilities exist, but not necessarily at interchange junctions. (Paragraph 118).

#### *Operation of Passenger traffic:*

(69) The increase in passenger traffic has been accompanied by very serious overcrowding, caused mainly by shortage of passenger rolling stock. (Paragraph 119).

(70) We recommend that the provision of steel for carriage underframes and body construction should receive the highest priority even at the expense of wagon construction. (See item 38 above). (Paragraph 120).

(71) The increase in passengers carried on the electrified suburban trains on the B.B.&C.I., G.I.P. and S.I. Railways has been startling. This indicates great possibilities of multiple-unit electric trains for intensive suburban traffic. (Paragraph 121).

(72) Punctuality of passenger trains has definitely suffered during the war and the postwar period. The main reason is that there has been a serious falling off in the energy and application shown by staff of all ranks, including supervisory and superior.

The first essential is to restore a reasonable degree of punctuality and to increase the train services so as to reduce overcrowding. Efforts should be made gradually to revert to the 1939 speeds. (Paragraph 122).

#### *Control Office:*

(73) Improvement in control circuits and careful selection and training of controllers is essential. We do not favour decentralisation of the control organisation except for technical reasons.

We reiterate the recommendation of the Inglis Appleton Mission that suitable premises, better lighting and better condition of work for the controllers must be provided.

We do not recommend the practice of having a separate assistant officer in charge of the control, except in the case of subsidiary control offices. (Paragraph 123).

#### *Locomotive Operation:*

(74) The power utilisation was at its best during 1941-42, both on the Metre and Broad Gauges. Since then Railways have not been able to make good use of their augmented stock of locomotives.

The number of locomotives due to be replaced on an age basis is large and the wear and tear during the war years was heavy, but these cannot explain the very low engine performance in recent years.

Three Railways, the G.I.P., B.N., and the M. & S.M., 'pool' their engines. On the other Railways there is little or no 'pooling'. We recommend general pooling, after proper preparation to improve utilisation.

There has been a diversity in the types of locomotives, adding to the difficulties of the railways, but this is a factor which is by no means new.

A comparison is made of the practice on the G.I.P. and B.N. Railways, which at present show the best results.

We do not condemn large concentrations of locomotives, as at Bhusaval, but do not recommend further larger concentrations at present. (Sec item 44 above). (Paragraph 124).

(75) We recommend that, except in special circumstances, replaced engines should be withdrawn. Most of these engines are old and expensive to maintain. (Sec item 41 above). (Paragraph 125).

(76) The quality of coal supplies to railways in recent years has deteriorated and each shed is receiving coal from a large number of collieries.

We agree with the recommendations of the Indian Coalfields' Committee that the use of good coking coal should be restricted on Railways, subject to the proviso that this change over is gradual and not sudden and premature.

Non-coking coal supplied must be of good quality. Railways can at present make very little use of Grade III Coal. Modifications are, however, being prepared for locomotives designed to burn low-grade coal. (Paragraph 126).

(77) There appears to be a case for further experiments with oil-burning locomotives on Railways which serve ports and are at a long distance from the coalfields. (Paragraph 127).

(78) The fuel bill on Indian Railways is approximately 12 per cent. of the total operating expenses; the total annual expenditure on fuel alone being nearly Rs. 15 crores.

The Nizam's State Railway, have a simple but effective system of checking fuel consumption, and we recommend a similar system for the Indian Government Railways. (Paragraph 128).

#### *Signalling and Tele-communication :*

(79) We recommend the preparation of I.R.S. drawings for all double-wire components. This will enable Railways either to manufacture their own double-wire equipment or call for tenders in the open market.

We also recommend the attachment to the Board's office of an experienced Signal Engineer, capable of examining signal and interlocking schemes, for advising the Board.

We also recommend the deputation of Indian Signal Officers to study Signalling and Interlocking work on the continent of Europe. Indian Signalling practice has in the past followed British practice too closely.

Improvement in Telecommunication is being pressed forward as recommended by the Inglis Appleton Mission. (Paragraph 129).

#### *General Rules :*

(80) We recommend that the whole subject of the General Rules should be approached from first principles and a Committee should be appointed to evolve a new Rule Book which will not only contain all orders necessary to secure safety but will also point the way for the future development of systems of working and signalling on progressive lines. (Paragraph 130).

### CHAPTER VI--Commercial Organisation and other matters

#### *Organisation :*

(81) We recommend that the arrangements for the training of officers in the Operating and Commercial Departments should be better organised. After training the officers should work in both the departments for 6 to 8 years; thereafter the cadre should be separated.

Commercial officers should be carefully selected. The best and keenest brains on the Railway are needed on the commercial side. Prospects of promotion of officers in the Commercial Department should be comparable with those of officers in the Operating Department. Selected officers

should be given encouragement for special study. Separate set of officers and inspectors should be entrusted with the supervision of commercial work at stations. We do not consider it necessary to exclude the Commercial Department from the Divisional Organisation.

There should be separate Head of Department for commercial work on the B.B.&C.I. Railway. The majority of the Members further consider that the experiment of amalgamating the posts of Commercial and Operating Heads on the S.I. Railway should be abandoned, and a separate head of department for commercial work on the O.T. Railway should be established. Messrs. Guruswami and Rama Iyer, while agreeing with the necessity for the retention of a separate commercial organisation within the Traffic Department, do not accept the need for separate Commercial Heads, owing to the small size of the two systems. (Paragraph 131).

(82) Public Relations Officers (P.R.Os.) should be selected from among the suitable railway officers and special training given to them, rather than attempt to recruit officers who have press experience and then try to teach them the railway side of their work.

We consider that the P.R.Os. should be attached to Commercial Departments and their energies should not be side-tracked on extraneous work. We are not satisfied that adequate justification exists for one P.R.O., in the Junior Administrative grade (with two other officers) at each of the centres; Bombay, Calcutta and Madras; one senior scale officer with each Railway should be sufficient for the present. We see no need for an expansion of the organisation in the Railway Board's office.

The practice of General Managers and Commercial Heads, meeting members of the Trade and Industrial Associations, is to be commended. (Paragraph 132).

#### *Rates and Fares :*

(83) We understand that the Railway Board have decided that the Indian Government Railways should all introduce Rates Registers and we trust that this work will be energetically pursued. (Paragraph 133).

(84) The complaints against the old rating structure have been removed to a large extent by the introduction of the new telescopic class rates and wagon rate schedules from 1st October 1948. Subject to certain limitations, railways can still quote station to station rates. The problem of the relation between Owner's Risk and Railway Risk rates has not yet been adequately handled.

The success or failure of this new experiment can be gauged by the number of special rates that railways will still find it necessary to quote. (Paragraph 134)

(85) The shortest distance principle governs the routing of traffic subject to the weightage of 75 miles for each break of gauge; this allowance might well be higher. (Paragraph 135)

(86) The question of the level of rates and fares is a matter for Cabinet consideration, and we, therefore, do not comment on it. (Paragraph 136).

(87) The level of season ticket fares in the Bombay areas is low. (Paragraph 137)

(88) While we agree in principle with the advisability of reducing the number of passenger classes from four to three, we consider that it would have been wiser to defer this change, proposed from 1st January 1949, until Railways have some spare stock in hand. The change involves the burdening of the shops with additional work which is most undesirable at present. (Paragraph 138).

(89) We support the principle of having one freight rate scale for coal for the whole of India, and the effect of the new scale introduced from 1st September 1948, should be watched.

We suggest that it would not be unreasonable to add an additional charge of 4 annas per ton when open wagons are supplied for coal loading at the request of the individual colliery (Paragraph 139).

## XVI. SUMMARY

(90) When special types of wagons are provided for traffic, it is desirable that the rates charged for such traffic should be examined, to see whether the cost of providing special wagons is adequately covered. (Paragraph 140).

### *Claims and Legal Work :*

(91) For the prevention of claims the remedies are better organisation at stations, better training and supervision of the staff concerned. Provision of Ellis locks and careful rivetting give a greater degree of protection. Wagon design should be altered where necessary so as to make wagons more "thief proof" than they at present are.

To improve claims disposal, it may be of assistance temporarily to draft officers from the Accounts Branch. We do not favour decentralisation of claims work.

The Convention that claims within certain limits can be settled by the railway receiving the claim without reference to the other railways, should be re-examined as soon as conditions permit.

Where a suit for claim is filed, and the administration considers that the ground is good for repudiating the claim, such suits must be properly defended. (Paragraph 141).

(92) Wholtime law Officers would in many cases be advantageous and justified. (Paragraph 142).

### *Handling of Merchandise :*

(93) We recommend that railways should devote greater attention to the subject of quick transit of goods in smalls. (See item 66 above). (Paragraph 143).

(94) As parcels traffic is likely to decline, no immediate enquiry as to the facilities required is necessary, but later a survey of the terminal facilities would be useful. (Paragraph 144).

(95) The Registered Transit System The Green Arrow might be introduced later on sections with adequate control and telecommunication. (Paragraph 145)

(96) We recommend that action should be taken to develop gradually a suitable collection and delivery service on a large scale (Paragraph 146).

(97) We do not consider that the time has yet come for extensive use of refrigerator vans. (Paragraph 147)

### *Catering :*

(98) We recommend that departmental catering should be built up with caution and should be regarded as a long term development.

The present policy of charging nominal rent from catering contractors has been a source of loss to the railways without any advantage to their customers.

The present practice of referring questions concerning catering to the Central Advisory Council, with a view to standardisation should be modified, and greater discretion left to individual administrations, acting in consultation with their Local Advisory Committees. (Paragraph 148).

### *Ticketless Travel :*

(99) The check of the ticketless traveller who deliberately attempts to evade payments is the most difficult. It involves structural alterations to stations, improvement in the system of checking the ingress and egress of the passengers, and removal of overcrowding on the trains.

The pennyless traveller is not strictly a direct source of loss to the railways, but with better system of checking he disappears.

A good deal of ticketless travelling arises through the inefficiency of railway arrangements, better system of issue of tickets, better supervision, will help to reduce this class of ticketless traveller. (Paragraph 149).

### *Advisory Committees :*

(100) We recommend that the majority of the members of the Central Advisory Council should be chosen by Commercial and Industrial Associations and there should be direct representation of rural interests and of

the travelling public. There should be 12 members excluding the Chairman and six meetings in a year, and not necessarily always in Delhi.

We also suggest that nine out of twelve members of each of the Local Advisory Committees should be representatives of Chambers of Commerce or Industrial and Travellers' Associations. The size of the Committee should not be increased. The representation of the Central Advisory Council on the Local Committees should be dropped. There should be six meetings in a year. (Paragraph 150).

*Other Matters :*

(101) Although the problem of rail-road competition is not an urgent matter now, it is likely to become so in the future. Railways are being offered shares in the various road transport concerns, but the control is almost wholly with the Provinces. We are not sure that this would prove effective. The degree of control by the Union Government on the Provincial Road Transport system requires serious consideration.

(Paragraph 151).

(102) Inland water transport is a problem for the Union Government and suitable steps to control this in and out of Calcutta should be taken.

(Paragraph 152).

(103) Bribery and corruption will continue as long as some of the travelling and business public appear to acquiesce in the payment of additional premia for service, but this evil practice can be held in check by deterrent and prompt punishment of proved offenders amongst the railway staff. We should like to see more action in the way of prosecution of bribe-givers as well as bribe-takers. Strict enforcement of Railway Servants Conduct Rules 8 to 13 will help.

(Paragraph 153).

(104) Development of mela traffic with careful planning and preparation is a very useful source of revenue.

(Paragraph 154).

(105) The strength necessary for the Railway Protection Police should be periodically reviewed. The question of allocation of expenditure is a subject for negotiation between the Centre and the Provinces.

(Paragraph 155).

## CHAPTER VII—Electrical Organisation and Electrification

(106) The balance of argument favours decentralisation of electrical work on the railways, other technical departments gradually taking over the responsibilities of this working. The officers of the technical departments should, therefore, have some electrical qualifications.

Electrical traction work should be entrusted to a sub-department, until it becomes so widespread on a railway as to require a separate Traction Department. The Railway Board's office should have some machinery to critically examine electrical projects and schemes.

(Paragraph 156).

(107) It is not possible to produce any satisfactory formula for the justification or otherwise of an electrification project owing to the large number of variables involved, but generally speaking our view is that there is scope for the extension of electrification on the Indian Railways, with due regard to financial considerations and to the "Terminal Problem."

(Paragraph 157).

## CHAPTER VIII—Railway Stores Organisation

(Interim Report submitted to Government on the 18th October 1947).

(108) We recommend that a Joint Committee should draw up a further list of items available locally, for which the powers of purchase should be decentralised to the railways.

(Paragraph 160).

(109) We suggest that the percentage payable to the Ministry of Industry and Supply for making purchases of stores, might be reviewed early

(Paragraph 161).

(110) We do not consider that time has arrived for the suspension of the "chasing" organisation of the Controller of Railway Supplies.

The cost of the Stores Organisation on railways has increased out of all proportion to the increase in work; and we, therefore, recommend an immediate job analysis on all railways.

(Paragraph 162).

We also recommend that quarterly joint meetings be held of the Railway Controllers of Stores, representatives of the Industry and Supply Ministry and the Railway Board. (Paragraph 162).

(111) We stress the need for simplification of the Stores Procedure on railways, and for appreciably reducing Stores Balances.

(Paragraphs 163 and 164).

#### CHAPTER IX - Finance

##### *Organisation :*

(112) The Financial position on the Railways cannot be considered satisfactory. (Paragraph 165)

(113) We consider that it is desirable to have in the Finance Branch of the Railway Board a separate unit whose primary duty would be to explore constantly means for improving the earnings.

We urge greater care in arriving at the estimated cost of schemes put up for sanction. (Paragraph 166).

(114) The Financial Adviser of the individual Railways should be entrusted also with the duty of advising on the development of earnings and should be provided with the necessary staff and other facilities.

(Paragraph 167).

(115) To ensure the efficiency of the Financial Adviser and Chief Accounts Officers (F.A. & C.A.Os), relief might be given to the Financial Commissioner, Railways, so that he could tour more frequently and keep closer contact with them. (Paragraph 167).

With the object of improving the machinery for Financial Advice and Control, with which we are in full agreement, the Railway Board have decided to bring into existence ultimately on each railway a separate Finance Branch. We do not think that this is necessarily a pre-requisite to sound financial advice. To save additional expenditure, we consider that the question of a change in the organisation best suited for each railway might well be left to the railways themselves.

Under the proposed reorganisation, it would be laid down that the approval of the Financial Adviser should be obtained before the General Manager can give effect to an scheme affecting the finances of the railway. This should not be enforced.

We further suggest that a collective financial survey should be made annually by the F.A. & C.A.Os. (Paragraph 167)

##### *Costing :*

(116) Successful Financial Control demands that each and every activity of the Railway, particularly those in the Workshops, should be costed scientifically. We suggest that steps be taken to introduce scientific costing system in the Railway Workshops. (See item 37 above).

(Paragraph 168)

##### *Budget :*

(117) The Demand Heads of the Railway Budget have been altered recently under which the working expenses have been regrouped enabling expenditure to be more directly correlated with "Performance". We agree with the revision made and suggest that prompt action should be taken with a view to checking wasteful expenditure and introducing effective managerial control in place of the existing Budgetary control.

(Paragraph 169).

(118) We consider that the Budget work in the Railway Board's office should be transferred from the control of the Director of Accounts to the Director of Finance. (Paragraph 169).

##### *Separation Convention :*

(119) Owing to the uncertain factors involved in the present situation, the existing method of making *ad hoc* contribution to the General Revenues has to continue, until the future position of the railways can be estimated with greater definiteness. (Paragraph 170).

*Capital at Charge :*

(120) We strongly recommend that no outlay should be incurred other than on strictly financial considerations, unless the other factors which might justify a capital expenditure are so important that it would be unwise to ignore them. (Paragraph 171).

(121) The capital at charge includes about Rs. 68 crores representing intangible assets of the Indian Government Railways.

We recommend that a beginning should be made to write down the cost of the intangible assets by contributing 1 per cent. of the gross earnings every year to an Amortisation Fund. This should be a charge against the gross traffic receipts.

It is also recommended that in case any Capital expenditure has to be undertaken for reasons other than on financial considerations, it might be advantageous to write down the Capital in such cases through Amortisation Fund. (Paragraph 171).

*Depreciation :*

(122) We recommend that an annual contribution to the Fund for the next five years be made at Rs. 22 crores per annum. Thereafter, as and when the prices stabilise, an enquiry should be undertaken how and at what rate contribution, should be made. It is tentatively suggested that the contribution should ultimately be related *inter alia* to gross earnings. (Paragraph 172).

*Separation of Audit and Accounts :*

(123) In view of the decision already arrived at by Government on the report of the Departmental Committee, set up in 1947, on the question of the amalgamation of Audit and Accounts, we do not suggest that the decision already arrived at need be reconsidered now. (Paragraph 173)

## CHAPTER X—Staff

*Staff requirements :*

(124) Judged by the usual statistical standards, and after making liberal allowance for work of special nature and for the changed conditions during the last few years, the staff strength on the railways is on the high side. *Prima facie* there is a case for job analysis to determine the staff requirements in the future. (Paragraph 177).

*Staff efficiency :*

(125) There has been a general slackening of discipline deterioration in the morale and efficiency of workers. The remedies are on a long term basis and include—

- (i) The implementation of the Adjudicator's Award will improve service conditions. (Paragraph 180).
- (ii) The confirmation of staff who have been on a temporary basis for long periods. (Paragraph 181).
- (iii) The improvement in the standard of training and supervision. (Paragraph 182).
- (iv) The definition of the selection posts, which should be confined to the supervisory grades, and the categories of staff eligible for selection. (Paragraph 183).
- (v) The treating of the "efficiency bars" as such, and qualifying examination or such other tests being laid down. Mr. S. Guruswami, however, objects to "efficiency bars". (Paragraph 183).
- (vi) The provision of better living and working conditions. (Paragraph 184).
- (vii) The improvement of the standard of supervision. (Paragraph 185).

(126) We recommend that organised labour should be requested to embark upon a campaign of propaganda to stimulate greater effort. Similar propaganda might be launched through the leaders of men. (See item 33 above.) (Paragraph 186)

*Discipline and Appeal Rules :*

(127) We recommend that subject to the right of appeal, the usual penalties of withholding of increments or promotion, including stoppage at an efficiency bar, the reduction to a lower post or time scale or to a lower stage in the time scale, the recovery from pay of the whole or part of the pecuniary loss caused to Government, should be capable of imposition by the competent authority; and for this purpose the Payment of Wages Act should be suitably amended. (Paragraph 187)

(128) Powers of minor punishment should be delegated, subject to the right of appeal, to the lower authorities (including supervisory subordinates) to enable swift action being taken. This applies particularly to Workshops. (See item 33 above.) (Paragraph 187)

(129) We suggest that the experiment in the Post and Telegraph Department of the formation of an Appellate Tribunal should be watched, and if found successful, similar Tribunal might be started as an experimental measure at one of the main railway centres with the duty of advising on appeals against the orders of punishment in the case of two railways. Mr. Guruswami, however, considers that similar Tribunals should be set up immediately on all railways. (See item 138 above.) (Paragraph 187)

*Recruitment and Training :*

(130) Recruitment of all Class I Officers should continue to be made through the Federal Public Service Commission. Staff College should be established, which will, *inter alia*, establish *esprit de corps* and a tradition amongst officers that they are all members of a great National Railway. (Paragraph 188)

(131) Promotion of officers from the junior to the senior scale should be by seniority, subject to a qualifying test. Promotion from the senior scale to the Junior Administrative grades should be by selection. There should be suitable Senior Officers' Course in the Staff College. (Paragraph 188)

(132) We agree with the Railway Board that a junior scale officer should be fit to be and should normally be promoted to the senior scale at the end of about 9—11 years service. We consider it sound that the proportion of Assistant Class I Officers should be fixed accordingly. (See item 134 below.) (Paragraph 188)

(133) The Officers are so taken up with routine matters that supervision suffers. We recommend that the solution is for the executive officers to tour frequently and maintain closer contact with the staff under them. (Paragraph 188)

(134) We agree with the decision taken by the Central Advisory Council for the retention of Class II Service on the Railways. In order to improve the channels of promotion of Class II service men, we recommend that 25 per cent of the working posts in the senior scale should be reserved for them; officers must, however, be qualified to be promoted in the same way as we have recommended for class I Officers. (See item 131 above.) (Paragraph 189)

(135) We also agree with the recommendation of the Central Advisory Council, that the men in Class III service should be considered for promotion to Class II first, and only the remaining vacancies should be filled by direct recruitment to class II, which again should be made through the Federal Public Service Commission. (Paragraph 189)

(136) We consider that there must remain regular and wide avenues of promotion to the deserving men belonging to the Class IV service and with this end in view, we recommend that for such candidates the educational qualification and age restriction for the purpose of direct recruitment to any particular category of Class III service should be relaxed, the actual recruitment being left to the recruiting authority. (Paragraph 190)

(137) We recommend that for the recruitment to the lower grades of Class III services, greater preference should be given to the sons and nephews of the railway employees who have rendered not less than 15 years of efficient and continuous service. 10 per cent. of the vacancies should be reserved for them subject to their being suitably qualified. (Paragraph 190)



(138) We approve of the principle of recruitment of class III employees through independent Commissions. This is in line with the decision of the Ministry of Home Affairs to set up Agencies for recruitment of class III and IV staff. We consider that if the Agencies are likely to have regional offices, it might be economical to entrust the work of railway recruitment to these Agencies, and abolish all the Joint Railway Service Commissions. On the other hand, if these Agencies have to be expanded considerably, it would be preferable to continue recruitment through the separate Railway Commissions. In that case, we recommend the reduction of one of the four Joint Service Commissions, the number of Members of the remaining Commissions being reduced to three, including the Chairman. The personnel forming the Commissions should have had considerable Railway administrative experience, but if such men are not available, there is no bar against the appointment of non-railwaymen with corresponding experience.

We have no objection to the advice of the body being taken by the administrations, in case of appeal, but this should not necessitate an increase in the number of Members or the appointment of a person with judicial experience. (See 129 above). (Paragraph 191).

(139) Area Schools for the training of Class III staff should be established on all railways.

An initial period of training for the non-technical staff also would be advisable. (Paragraph 193)

(140) All round improvement can be effected only when the general level of intelligence and literacy of the labourer is raised. The first essential is the spread of education amongst labourers. We recommend that a lump sum literacy bonus should be paid to men in the lower categories for the acquisition of literacy. (See item 33 above). (Paragraph 193).

#### *Organisation :*

(141) Where personnel work has not been centralised, no attempt need be made to do so. We recommend that on railways run on a departmental system, each Head of Department may have a small office dealing with personnel matters. On Districts it is not necessary to have a Personnel officer, except on the longer ones, where an Assistant Officer might be provided to work under the District Officer. On Railways run on a Divisional system, the concentration of personnel work in the headquarters office will be needed. On Divisions, it will be advantageous to have a small unit advising the Divisional Superintendents, in personnel matters, and in dealing with the appeals which lie to him. Apart from that, the personnel work should be done by the various Divisional Officers. (Paragraph 194).

(142) We consider that at the present time the establishment of a machinery for dealing with industrial relations on railways is a matter of importance and should be favourably considered by Government.

We support the constitution of Joint Production Committees for the railways and consider that co-operation on these Committees between the railways and trade unions would be beneficial, and should be taken up by Government.

### CHAPTER XI—Research

(143) Railway Research Organisation is at present inadequate for the essential needs of the Indian Railways and the Railway Board contemplate forming an Advisory Committee under the chairmanship of the Chief Commissioner. This should be done very early. The Civil and Mechanical Engineering Research Organisation already exists under the Central Standards Office, and should be sufficiently strengthened and expanded. It should be watched that research work is not duplicated, full use being made of the National or University laboratories and institutions.

(Paragraph 196)

(144) It is not necessary to construct magnificent buildings and laboratories in the first instance but the organisation should be built up satisfactorily and prospects for the staff working in or selected for this Research Organisation made specially attractive. Encouragement should be given

for study and training in research abroad. There should be intimate liaison with all the Research Organisations in India as well as abroad and there should be no hesitation in seeking assistance from or association with outside sources if and when necessary. (Paragraph 196).

## CHAPTER XII—Central Controlling Authority and Railway Organisation

### *Central Controlling Authority :*

(145) We do not consider the present central organisation, under which the Railway Board is part of the Secretariat of the Government of India, to be altogether satisfactory. We recommend the vesting of the control and management of the Union Railways in a Statutory Authority; for important reasons, however, we suggest that the setting up of the Authority should be deferred for about 5 years from now (Paragraph 197).

(146) We recommend that the Authority should be charged with the following responsibilities: "The Authority shall develop throughout the Union of India an efficient, adequate and economical system of railway transport for passengers and goods. They shall have due regard to interest of agriculture, industry, commerce and the general public, and to the interest of their staff and safety." (Paragraph 197).

(147) We recommend that the Authority should not be a large body and suggest that the composition should be a Chairman and six Members. We discuss the qualifications and recommend that one of the Members should be "a person who has shown capacity in financial matters" and who should be appointed by the Finance Minister and also "one person who has shown capacity in the organisation of workers." (Paragraph 198).

We recommend that the Chairman and two Members should render whole-time service, including the Finance Minister's nominee, and that the remaining Members should be part-time only. (Paragraph 198).

(148) We next discuss the residuary powers of Government. We recommend that the Transport Minister should be invested with power to "give direction" to the Authority in matters affecting the National interest but that such direction should only be given after consultation with Authority. We also recommend that each instance of such direction should be included in the Authority's Annual Report to Parliament. We also recommend that the Transport Minister should have the right to preside and vote at meetings of the Authority whenever he considers it desirable to do so. (Paragraph 199).

(149) We next discuss the financial powers of the Authority. We recommend the execution of a Convention by Government and the Authority which would lay down principles on which the surplus should be divided between the Railway Reserve and the Revenues of India. We also recommend that although the Act setting up the Authority would contain a clause allowing the Authority to borrow money in the open market, such borrowing should be subject to the approval of Parliament. We recommend that capital programme should be subject to the prior approval of the Minister but that the Authority should have the right to sanction works not specified in the Programme, if costing less than rupees one crore. (Paragraph 200).

(150) We recommend that the Accounts of the Authority should be in a form prescribed by the Auditor General of India and that he should audit and certify them. (Paragraph 201).

(151) We discuss the position of the present Railway Board after the setting up of the Authority. (Paragraph 202).

(152) We recommend that on vesting day all Railway Officers and staff should cease to be Government servants and should become servants of the Authority. We also recommend that the rights of appeal of Officers and staff of the Authority should not be inferior to the rights of appeal that they would have enjoyed had they been in Government service (Paragraph 203).

(153) We recommend the retention of the Railway Rates Tribunal after the setting up of the Authority. We also recommend that the Central Advisory Council for Railways and the Local Advisory Committees should be retained. (Paragraph 204).

*The Railway Board :*

(154) We have heard complaints of delay in the Railway Board's office in passing orders on executive matters, and consider that the problem should receive greater attention than hitherto. Part of the present discontent among the railwaymen might well have been avoided if the Board's decisions on important staff questions could have been announced with reasonable expedition.

There has been a very large increase in strength of staff, in the office of the Railway Board during the last few years, and even after giving due weight to the various considerations leading to an increase in work, we are not convinced that the large expansion is justified. All future expansions must be carefully scrutinised. (Paragraph 206).

Wherever possible, the policy of decentralisation of work should be pursued. (Paragraph 207).

(155) We do not recommend any immediate reduction in the size of the Board itself, but when conditions become more normal, the question of reversion to the prewar size should be examined. (Paragraph 208).

(156) We do not consider it necessary that the Chief Commissioner need always be an Engineer; officers of other departments also should be considered equally with the Engineers for this post.

The officer selected as the Financial Commissioner should be one who has spent most part of his service on the railways as an Accounts Officer. (Paragraph 208).

(157) Generally, we feel that the Secretary's main duty should be the control of the office and to enable him to devote his time to this work his personal executive responsibilities should be reduced to a minimum. (Paragraph 209).

*Divisional versus Departmental Organisation :*

(158) The Principles of "Divisional" and "Departmental" organisations on railways are described. The advantages and disadvantages of each system are also considered. (Paragraph 210).

Certain figures are compared which indicate that, whatever the reason may be, railways organised on a departmental basis, except perhaps the B.B. & C.I., have generally produced more satisfactory results than have divisional railways. In the light of evidences received, we are unable to make any definite recommendation concerning the retention or otherwise of the divisional organisation. We, however, suggest an examination of the question of bringing the East Indian Organisation into line with that of the G. I. P. Railway organisation, which seems to have proved satisfactory. (Paragraphs 211-212).

(159) We recommend that a careful examination of the question of "divisional" or "departmental" working should be made before definitely condemning the "divisional" system. We also consider that it will be important to arrive at a decision on this before the general question of regrouping of railways can be taken up. We make certain recommendations for improving the organisation on both departmental and divisional railways. (Paragraph 212).

CHAPTER XIII--Regrouping of Railways

(Submitted to the Railway Board on the 20th September 1948).

(160) The amalgamation of railways or the transfer of parts of one system to another always results in a temporary loss of efficiency. We consider it to be wrong to make any general recommendation now for the regrouping of railways. Further, there is the possibility of integration of the large number of small Indian State Railways into larger units in the near future. (Paragraph 215).

(161) Partition has brought into existence two small systems, the E.P. and the Assam Railways and in view of the importance of the E.P. Railway, we consider it necessary to improve its resources. Various proposals have been considered including those recommended by Mr. B. B. Varma. We recommend that the E.P. Railway should continue as a separate entity for some years to come and this railway should be provided, without any avoidable delay, with basic resources necessary for efficient management.

(162) We do not recommend any division of the E.I. Railway for the present and we deprecate the addition to that railway of any section (Metre Gauge) of the O.T. Railway. O.T. Railway must remain as a separate undertaking as at present.

(163) In order to equalise prospects and promotion of officers of the E.P. and Assam Railways, we recommend that the officers of the E.P. Railway should be put on a common cadre and seniority list with those of the G.I.P. Railway and likewise the Assam Railway officers with those of the E.I. Railway. This would be a temporary feature until the general question of regrouping is taken up. (Paragraphs 216-220).

#### CHAPTER XIV—Railway Grainshop Organisation

(Submitted to the Railway Board on the 15th September 1948).

(164) The Grainshop Inquiry Committee criticised bitterly the organisation for the procurement, inspection and distribution of foodstuffs and commented on the prevailing corrupt practices. They unhesitatingly came to the conclusion that there could be no question of retaining the grainshops as a permanent part of the railway administration. However, owing to the uncertain economic conditions of the country, they recommended the continuance of the organisation on a somewhat restricted scale.

(Paragraphs 221-222).

(165) In view of the serious dissatisfaction among the workers and the abuses brought to light by the Grainshop Committee, we recommend that steps should be taken to end the Grainshop organisation as it exists today; the staff being compensated for the loss of the measure of relief in kind now received by them.

The scale of dearness allowance now paid to the other Central Government employees should be given to the railwaymen. They should also be given some additional relief, at any rate for a limited period, equivalent to the present railway loss, less the deduction for overheads and wasteful expenditure. This amount should be distributed in consultation with the organised railway labour. This scheme should apply in the first instance for 12 months after the closure of the grainshops, meantime the situation should be reviewed. Any increase in dearness allowance given to the Central Government employees during this period should be set off against this marginal relief.

This relief should be given to certain specified categories of staff.

(Paragraph 223).

(166) The Grainshops staff should be absorbed in other employments, the General Managers being given discretion to relax age and the minimum educational qualifications making the appointments themselves without reference to the Service Commission. Mr. S. Guruswami has not committed himself to the recommendations made in this Chapter.

(Paragraph 224).

#### CHAPTER XV—Miscellaneous

##### *Railway Clearing Accounts :*

(167) We are impressed with the benefits accruing from the establishment of an efficient Central Organisation for foreign accounts work, but they cannot be realised under the conditions at present obtaining in the Clearing Accounts Office. Full advantage of a centralised office could only be achieved if all the nine Government Railways could participate instead of five at present. (Paragraph 227)

(168) If simpler methods of apportionment of earnings between Indian Government Railways are devised, then even if all the nine railways participate, the strength of the office would not be unmanageable.

(Paragraphs 228-229).

(169) We recommend that the method of apportionment of earnings between the Indian Government Railways should be simplified and all of them should participate in the Clearing Office scheme, which should then be retained as a permanent measure.

If, however, the Government do not agree to the simpler methods of apportionment, decentralisation of the foreign traffic accounts work seems to us to be necessary

In the event of a centralised office being maintained, there should be proper office and residential accommodation, located at a central but uncongested and healthy area. There is scope for economy through the adoption of mechanisation and job analysis of work, further the Director of the office should not be of a status lower than that of the Chief Accounts Officer and that he should not be transferred away as frequently as the past.

(Paragraph 230).

#### *Statistics :*

(170) We favour the system adopted on the S. I. Railway for the prompt compilation of statistics. We recommend that each railway should have a statistical officer who should interpret and review statistics and bring to notice the salient points emerging from the statistics. Further, analysis should be made by departmental and executive officers. There should be regular monthly meetings on the railways where all these points could be discussed and followed up.

These monthly statistics are not enough for the railways; the day to day statistics compiled in the Traffic Control offices, if properly used, are, in many ways, far more important to the Operating Officer than the periodical or monthly statistics.

(Paragraph 233).

(171) We recommend that statistics should be reviewed in accordance with the present day requirements. This review should be continuous and directed towards keeping the statistics in conformity with the current needs. We have indicated certain directions in which statistics could be improved.

(Paragraph 234).

The qualities of the statistical officer are laid down.

(Paragraph 235).

(172) We suggest that a popular edition containing the more important statistics should be compiled and made available to the public. This would disseminate accurate information among the public.

The delay in the Board's office in publishing the periodical and monthly abstracts and statements should be reduced to the bare minimum.

(Paragraph 236).

(173) We consider that periodical meetings of statistical officers of different railways should be useful.

(Paragraph 237).

(174) All officers, particularly of the Transportation (Traffic) and (Power) and Commercial Departments should have a course of training in the use of statistics. This training should form part of the curriculum for the qualifying examination for the promotion of officers to the senior scale.

(Paragraph 238).

(175) We recommend the preparation of a Statistical Manual, which would set forth the meaning of the various units and the methods of employing them intelligently

(Paragraph 239).

241. *Observations by the majority of the Committee on Mr. S. Guruswami's Notes of \*Dissent.*—It is unnecessary for us to deal with the whole of these notes in detail. We shall, however, refer briefly to some of the points raised in the first Note of Dissent.

The targets in paragraph 162 are intended to indicate the degree of reduction that we consider to be reasonable; naturally, this would depend on the result of the job analysis we have recommended.

We are unable to accept the view that capital expenditure on development schemes of Railways should be incurred irrespective of whether it is financially justified or not. The extent to which such expenditure may, in our opinion, be incurred without financial justification has been indicated in paragraph 171. Mr. Guruswami concedes that one of the main considerations should be "balancing the budget". If additional capital outlay is incurred on a scheme without ensuring that the scheme will be remunerative enough to pay interest on its capital outlay, it is difficult to see how, in the long run, the Railway Budget can be balanced.

We are unable also to accept the view that general revenues should not receive any "contribution" from the Railways. We have no doubt that the Indian Railways should retain only so much of their surplus earnings as are needed for their financial stability. Our recommendations are based on this principle.

Out of Rs. 221.59 crores paid as contribution to the general revenues from 1924-25 up-to-date, a sum of Rs. 101.64 crores was paid in the three years 1943-44, 1944-45 and 1945-46 during which the Railway earnings touched high levels, mostly owing to Military traffic. Excluding those three years, the average yearly contribution was only Rs. 54.5 crores. Considering the capital invested by Government in the Railway, we do not consider this figure excessive. The increases in rates during the war years would not have been necessary if balancing the Railway budget or strengthening the Railway Reserves had been the only consideration. The general revenues thus had a claim on the extra earnings due to increased rates.

We have clearly stated in paragraph 170 that in fixing the contribution to the general revenues, the depleted condition of the Railway Reserves should be borne in mind. Mr. Guruswami objects to our recommendation concerning writing down the capital at charge. We do not consider that it is sound business to include in the capital at charge an amount not represented by tangible assets.

We would welcome any steps that can be taken to reduce the rate of interest, but we are unable to comment on Mr. Guruswami's proposed recommendation regarding the appointment of an Expert Committee to consider the nationalisation of banking to reduce the rate of interest as we consider it definitely outside the scope of our work. We cannot agree to do away with the Depreciation Fund. The Railways have necessarily to use in their daily working, wasting assets costing several crores of rupees. The replacement of these assets can only be on a "condition basis" and it would be impossible to plan the replacements according to the surpluses available from year to year. Each year's revenues must meet the wastage during the year, whether the actual replacement takes place in that year or not. We know the condition that prevailed before the institution of the Depreciation Fund in 1924-25 and it is inadvisable, in our opinion, to revert to the pre-separation practice. We have taken due notice of the difficulty in estimating replacement costs generally, and have, therefore, confined our recommendations to the next five years, and suggested a debit to revenue of what we anticipate would roughly be the cost of replacements during these five years. We consider that Mr. Guruswami's recommendation, if adopted, would only add to the difficulties of Indian Railways, with no compensating advantages.

We regret that Mr. Guruswami has found it necessary to dissent from so many of our recommendations in Chapter X. We have, throughout, endeavoured to meet his point of view, as far as the evidence before us would justify, or our judgment would permit.

We do not consider the observations that we have made in Section 'A' of Chapter X can reasonably be called "alarmist." We have been careful in this section to set down all factors which appeared to us to render unreliable any direct comparison between pre-war and present figures of staff. But we definitely consider that an important part of the increase in staff has not so far been adequately explained. We have, therefore, ourselves suggested that there is a case for a close job analysis in every department of the railways to ascertain whether there is adequate justification for maintaining establishments at the present high level. We also do not consider that the tables in this Section could usefully be applied to the Gazetted Officers or to the supervisory staff. We have, in Chapter III, paragraph 43, made references to cases where the number of Gazetted Officers and supervisory staff in the Engineering Department of certain railways appear to us to be excessive. But from what we have seen in other departments, we are of the opinion that there is no excess of gazetted officers or of supervisory staff.

The figures in tables 7 and 11, paragraph 179, show the position as it existed in 1945-46, as compared with 1938-39. We are not aware of the exact position as it exists today, but there has been a further rise in the number of men without, we believe, a corresponding increase in the work done. In any case, the conclusions drawn from these figures and the remedies suggested clearly indicate that we do not intend to criticise unnecessarily the work at present done by the railwaymen. While we know of no evidence in support of Mr. Guruswami's reference to a 30 per cent. to 60 per cent. variation in the maximum monthly mileage obtained by running staff on various railways, we would point out that table 7 is strictly confined to a comparison of pre-war and post-war performance of the same railway, and no comparison between different railways is attempted. We are glad, however, to see that Mr. Guruswami agrees that the railwaymen could have done better, but for certain undesirable influences amongst them.

As regards Mr. Guruswami's proposal for securing maximum harmony in industrial relations, we do not consider it necessary to go further than the recommendations which we have already made in paragraphs 187 and 195 of our Report. We have also no evidence ourselves as to the results of any experiments which may have been tried on the Mexican Railways.

We consider that the recommendations which we have made in paragraph 189 for the class II officers are sound and will greatly improve their prospects.

We do not consider that the scales of pay of gazetted officers are too liberal. We are afraid that any reduction in the scales of remuneration or worsening of their prospects by introducing rigorous selection for promotion from junior to senior scales might discourage the right type of young men from offering themselves for service on the railways, which would be disastrous.

We express no opinion on Mr. Guruswami's criticism of paragraph 197, as the question of management of Civil Aviation, Ports and Waterways is outside our terms of reference.

There has been no systematic calculation of the extra cost that might be involved in the decentralisation of the Railway Clearing Accounts Office as it exists today. It is generally accepted that decentralisation would involve some extra cost; but we have, in paragraph 225, quoted the figures given by the B. B. & C. I. Railway in 1941, from which it will be seen that that Railway did not consider that the transfer of the foreign traffic accounts work back to that railway would mean any extra cost. On the other hand, the administration expected a small saving.

We have in our report mentioned the conditions under which we would approve the continuance of a centralised Clearing Accounts Office. The continuance of such an office at Delhi would necessarily involve a fresh capital outlay of about Rs. 87 lakhs if not more—as against what

it would cost each individual railway which is now a party to the Central Office, to house its own foreign traffic accounts office and its staff in the event of decentralisation. We do not recommend the "uprooting" of any employee of the Railway Clearing Accounts Office unless residential accommodation is found for him at his new Headquarters. At the same time, we cannot altogether ignore the unsatisfactory features of the present arrangements which have been detailed in our report.

Mr. Guruswami submitted his second note of dissent on the 5th instant when we expected to sign our report. It is not, therefore, possible for us to deal with it in detail, nor do we think that it is necessary for us to do so. We have dealt fully with the criticisms contained in this note in the Report. We should, however, like to say in connection with Mr. Guruswami's observations relating to the IBCON enquiries that our conclusions are not based on them. Their accuracy or inaccuracy does not, therefore, vitiate our views which are based on our own observations and on the evidence received by us.

**242. Acknowledgments.**—Lastly, we must acknowledge our indebtedness to our Secretary, attached officers and staff. We appreciate very highly the service rendered to us by the Secretary. His ability, knowledge, keenness and industry have been invaluable to us. The attached officers too have helped us diligently and their knowledge has been very useful to us. Our staff, headed by the Assistant Secretary, has had to work under great pressure. They have worked long hours and even on holidays, and their help has been ungrudging. Our gratitude is due to them for their efficiency and the spirit in which they have worked.

H. N. KUNZRU,

*Chairman.*

MOHD. YAMIN KHAN,

S. GURUSWAMI,\*

J. N. NANDA,

K. R. RAMA IYER,

G. E. CUFFE,

*Members.*

M. N. CHAKRAVARTI,

*Secretary.*

NEW DELHI;

*The 6th November, 1948.*

\*Subject to the Note of Dissent (pages 238-244).



*First Note of Dissent by Mr. S. Guruswami.*

## CHAPTER VIII

*Paragraph 162*

I do not agree with the recommendation that a target of Rs. 60 lakhs on the old pay scales and Rs. 90 lakhs under the Central Pay Commission scales should be aimed at. In view of the recommendation for an immediate job analysis, I consider that any setting up of fixed targets for reduction of staff would be illogical and unjust.

## CHAPTER IX

I am constrained to differ with my colleagues in respect of their recommendations made in this Chapter.

I consider that the Railways are an essential public utility concern and any over emphasis on the need for immediate financial justification of any development schemes will not be in the best interest of the country. The standards obtaining in ordinary commercial firms should not be applied to the Railways and the main consideration should be one of public utility and balancing the budget.

My views on the question of contribution to General Revenues from the Railways are very decided. The Railways should not be saddled with any fixed liabilities. This is the case in other advanced countries. The greatest contribution that Railways can make is indirect by providing efficient transport for securing the prosperity of the country.

Since the Separation Convention, the General Revenues have received about Rs. 221.59 crores as contribution from the Railways, thereby crippling their capacity to maintain sufficient Reserves. If this contribution had been used for amortisation of capital, the Railways, would have been permanently relieved of a burden of about Rs. 7 crores per annum in the shape of interest charges, and a part of such savings could be used for contribution to Central Revenues. Business concerns are required to pay taxes only out of net surpluses after meeting interest liabilities. Depreciation Fund etc. The Railways have been paying in my opinion, since 1924 about 13 annas in the rupee out of its revenue balances, without being allowed to keep Depreciation Reserve on the scale allowed for the private firms. The Railways are allowed neither the privileges of a business concern nor those of a public utility undertaking.

In the circumstances, I consider that there is no justification for contribution to General Revenues until the railways are in a position to maintain reserves at least to the extent of Rs. 50 crores.

I do not agree with the recommendation that an amortisation fund should be created by a fixed contribution of 1 per cent. of gross earnings each year purely for the purpose of writing off the so called intangible assets estimated at Rs. 68 crores.

I am of strong opinion that an Amortisation Fund should be built up out of revenue surpluses according to the state of finances each year for the purpose of write off of the capital liabilities. This would reduce interest liabilities of the Railways. The burden of interest charges on the railways is too heavy and is of the order of Rs. 23 crores per annum and material economies can be affected permanently if the Government pursue a foresighted policy of advance planning, financing and execution of heavy capital schemes during periods of easy money and cheap material costs.

I further recommend the appointment of an Expert Committee to investigate into the possibility of reducing the rate of interest on public debt by creating sufficient social credit through a Nationalised Banking system. This should result in lessening of the burden of interest charges on both tangible and intangible assets.

I dissent from the recommendation that there should be an increased contribution of Rs. 22 crores per annum for the next five years towards the Depreciation Fund. In the first place, this is not a practical proposition considering the trend of railway earnings.

Already the Indian Railways maintain a Depreciation Fund on a scale not to be found in any advanced country of the world. It has been found

impossible for any Railway system to build up a Depreciation Fund which will fully meet the ever-changing costs of replacement and renewal of the Railway assets. The German and Japanese Railways had no Depreciation Fund. The practice in some countries is to make at the most a contribution of about 7 per cent. out of gross earnings for the purposes for which the Depreciation Fund is maintained by Indian Railways. Railways in South Africa, Australia, and U.S.A., are not able to make even this contribution. In Great Britain on certain railways before their recent nationalisation, the practice was to maintain Depreciation Fund for renewal and replacement of heavy equipment or machinery only and to maintain the balance in the Renewals Fund at a more or less constant level of 4.41 per cent. to 4.87 per cent of the total capital at charge. Our present balance in the Indian Railway Depreciation Fund is more than double this amount. Actual experience has shown that until recently appropriation to the Depreciation Fund on the present scale was in considerable excess of actual current requirements and, therefore, unfair to the Railways, the tax payer and the railway worker by causing an artificial deficit or reduction in the net receipts. The analogy of the Railway Depreciation Fund being something of a Life Fund of an Insurance Organisation cannot be applied to Railways in view of the nature of their capital structure and financial working.

The problem created by high replacement costs is a legacy of bad planning in the past and can be best dealt with by properly timing costly replacement and renewal programme to take place as far as possible during ever recurring periods of depression when prices are low.

I have, however, no objection to building up reserves out of surplus revenues earned each year for the purpose of strengthening Amortisation Fund, Depreciation Fund and other Reserve Funds and even contribution to the Central Revenues *ad hoc* and, therefore, no alteration is suggested in the present rate of contribution to the Depreciation Fund at present.

## CHAPTER X

In spite of their best intentions, my colleagues have made adverse observations in this and other chapters about inefficiency, go-slow tactics, decline in the morale, indiscipline and loss of pride in the job in regard to lower ranks of the staff and I am sorry I cannot associate myself with these observations.

Statistics have been quoted mechanically comparing the strength of staff in 1938-39 with that in the post-war years which have been abnormal. While conclusion is drawn that there is a surplus in the lower ranks, the same formula is not applied to the Gazetted Officers and Supervising staff for whom special pleading is made for further increase in strength.

Although it has been passingly admitted that special causes may exist to explain the employment of more staff, the emphasis has been more towards indicating the existence of a surplus. The Committee have been informed by the Railway Board that as a result of their review in the light of the Adjudicator's Award, there is likelihood of a net increase in the strength of staff because of the need for creation of 1,18,000 additional

In the circumstances, without a detailed job analysis in the light of the Railway Board's latest estimates, the observations made by my colleagues are alarmist because the statistics quoted by them have never been the basis for estimating surplus by any responsible administration. On the other hand, in the face of the assurances given by the Railway Board, a totally wrong impression will be created.

Take for example, table No. 7 relating to the Running (Power) Staff which shows that between 1938-39 and 1945-46, percentage of reduction of work per head in terms of Engine hours on E. I. Railway was 30 but the latest figures show that the lower grades of Running Staff on that Railway work 244 to 300 hours per month per man. The latest estimates of the Railway show that present Running Staff on E. I. Railway should be increased by 30 per cent. and in the face of this, to brand E. I. Railway Running Staff as having deteriorated in efficiency is, to say the least, not

fair to them. Similarly, in regard to other categories who will resent undeserved aspersions as regards their efficiency. The organisational system of each Railway limits the capacity for showing better productive efficiency. The Running Staff Committee have opined that due to local conditions, given the same efficiency the maximum monthly mileage performance for running staff differs from 30 to 60 per cent. between Group I Railways represented by E. I., B. N. and G. I. P. Railways and Group II Railways representing the remaining Class I Railways.

Considering the abnormal years they have passed through and that revised scales were not implemented for skilled and the Running Staff even long after the year 1947-48, with the result that their standard of living is less than what it was two decades ago, it is amazing and highly creditable that the Railwaymen did not paralyse the transportation system in protest against their unjust service conditions.

I do not wish to state that the Railwaymen could not have shown better results or that there have not been undesirable influence among them.

What is required is the creation of enthusiasm inspired from the highest quarters. If there is to be material improvement in the productive efficiency of the Railwaymen, there must be a change in the attitude between the Management and their employees in every sphere of activity.

I lay considerable stress on the creation of three types of machinery for ensuring maximum efficiency by harmony in the industrial relations. There is necessity for constitution of Standing Appellate Boards to hear appeals from the staff in respect of disciplinary punishments and wrongful supersessions. These should be modelled on the practice prevailing in Australian Railways, where such Boards inclusive of Trade Union representatives are constituted.

Unless this long standing complaint is removed as stated above, any further relaxation of the Disciplinary Rules to enhance the powers of the supervising staff will only increase the friction. Timid and limited experimentation will not be satisfactory.

The second proposal I commend for consideration is about the constitution of Joint Production Committee for securing the co-operation of such organised Labour as may accept the Industrial Truce Policy.

The functions of these Committees should be to consult and advise on matters relating to production and increased efficiency for this purpose, in order that maximum output may be obtained from the staff. Illustrative of the questions to be considered and discussed are : --

- “(a) maximum utilisation of existing machinery
- (b) upkeep of fixtures, jigs, tools and gauges,
- (c) improvements in methods of production,
- (d) efficient use of the maximum number of productive hours,
- (e) elimination of defective work and waste,
- (f) efficient use of material supplies, and
- (g) efficient use of safety precautions and devices.”

These Committees should be competent to consider all questions relevant to production. Thus will an opportunity be created for constructive contribution on the part of the staff. Only such Committee should be entrusted with the task of job analysis and all enquiries on questions relating to the improvement of Transport system.

These Committees should not deal with matters which are primarily the concern of Trade Unions.

The third important proposal requiring immediate action is the necessity of creating Joint Standing machinery for settlement of Trade Disputes. This matter was considered long ago by the Royal Commission on Labour in India. All advanced countries like Great Britain, Canada, South Africa, Australia, New Zealand, France, Belgium, etc., have provided such a machinery. Until this is done, there will be no improvement in the efficiency and good industrial relations on the Indian Railways.

Care should be taken to secure the co-operation of organised Labour and associate them as far as possible in every possible sphere of Transport activity to infuse a feeling that the Railways are a National asset that should be worked in the interest of all concerned. Wherever possible, the management of Railways should be handed to the workers as done in Mexico a few years ago. As a result of the personal observation made during my visit to Mexico in 1938 on the invitation of the Mexican Workers Railways Administration, I can testify to the success of this great venture in industrial democracy.

Lastly, I desire to state that there is a wide gulf prevailing between the officer class and the lower ranks. This should not be allowed to grow by encouraging past prejudices and customs.

Lower Gazetted staff should be eligible for promotion to Class I Scale, if possessing necessary qualifications. The principle of equal pay for equal work should apply in regard to those officers who perform the same duties as Junior Scale Officers.

I do not agree with the recommendation that a Junior Scale Officer should be able to go to the Senior Scale after 9 to 11 years of service as suggested in paragraph 188. The Senior Scale must be a cadre that should be filled up by a very rigorous selection. It should be borne in mind that considering the standard of living of the lower paid workers, the scales of pay of Gazetted Officers are too liberal and their promotions to or retention in higher ranks should not be justified except on considerations of merit and merit alone.

## CHAPTER XII

### *Paragraph 197*

I am of strong opinion that the Central Railway Authority should have the same functions as the Transport Commission constituted by the British Transport Act of 1947. This would imply co-ordination of all forms of transport by the Central Authority. I consider that maximum benefits can be secured only when all forms of public transport are not only nationalised, but managed by a Central Authority. This would require that all Railway systems, civil aviation undertakings, ports and waterways in the Indian Union should be managed under the proposed Central Authority.

## CHAPTER XV

I am sorry to have to differ from my colleagues on the question of the organisation of the Railway Clearing Accounts Office.

The Director, Railway Clearing Accounts Office, in his evidence, admitted that decentralisation of office at present would mean employment of extra staff, incurring of extra expenditure and up-rooting the employees who have been at Delhi for several years.

This question of decentralisation was several times considered in the past when it was more easy to do so with the least amount of hardship to the staff, and it was decided only recently not to shift the offices. I do not agree to the proposal of decentralisation which would involve the transfer of staff away from Delhi and needless extra expenditure to the Railways.

I have endeavoured as far as possible to concur with the views of my colleagues even when they are unfavourable to workers but I have been reluctantly compelled to record my notes of dissent only when I felt their observations are unwarranted.

S. GURUSWAMI,

3-11-48

*Second Note of Dissent by Mr. S. Guruswami*

## CHAPTER III

*Paragraph 45*

I differ from the views expressed by my colleagues about departmental manufacture, especially in the Arkonam Engineering Workshops.

Departmental manufacture becomes costlier generally when private manufacturers enter into unfair competition by unfair wages or labour practices and cut throat reduction of prices to disable a rival. For example, it is on record in Mitchell-Kirkness Report on Road Rail Transport that certain private concerns went even to the extent of carrying passengers free between Mysore and Mercara just to ruin the rivals. Raven Committee has also observed that "where the utilisation of scrap is an important factor in the elements of cost, the railway workshop is obviously at an advantage for raw material and is in a position to produce cheaper than other workshops" (*vide* paragraph 72 of the said Report). Departmental manufacture has the further advantage of securing maximum utilisation of its skilled labour and as profiteering motive is absent in departmental manufacture, maximum possible encouragement should be given to it; this need not prejudice constant exploring of all legitimate steps for reduction of costs of articles manufactured departmentally.

## CHAPTER IV

*Paragraph 72*

I do not agree with the estimates of surplus staff contained in table No. 11 showing a surplus of 36 per cent. on the basis of 1938-39 output. The basic figures quoted are misleading.

In the first place, 1947-48 was an abnormal period. The figures of surplus arrived at by my colleagues are considerably in excess of the departmental expert evidence. For example, the Chief Mechanical Engineer, G.I.P. Railway, stated that on the basis of 1938-39 outturn, the Parel Workshops would require 6,479 workmen, *i.e.*, a surplus of 272 men only on the strength in 1947-48. The mechanical rule of proportions applied in table No. 11 by my colleagues, none of whom is a Mechanical Engineer, shows a surplus of 2,484 in the Locomotive shops.

The number of staff employed per standard unit repair assumed by my colleagues includes a large number not employed on repair work. For example, according to the evidence of the B.B. & C.I. Railway 1,500 are employed on P.O.H. Inter and Out of course repair work, in Metre Gauge Locomotive Workshops whereas the corresponding figure assumed in the Table No. 11 is 3305 out of whom 1613 men are declared to be surplus. The Chief Mechanical Engineer, B.B. & C.I. Railway, stated that the number of days engines remained in the shops for heavy repairs was 57 plus 15 days in 1947-48 and if the spare parts are readily available even with the present labour efficiency the period can be brought down to 23 or 24 days. This alone would explain the wide margin of divergency between 1938-39 and 1947-48 figures with it reflecting adversely against the staff.

I estimate that due to malnutrition and postwar difficulties like civil commotions and long time spent on securing daily essential foodstuffs, absenteeism has increased generally by 10 per cent. It is on evidence that as a result of amendment in the Factories Act and stopping of overtime, the working hours had to be reduced from 60 to 48 hours explaining a difference of 20 per cent. in output. The extension of leave Rules to the temporary staff who were not previously eligible for any leave before completion of five years service will justify a difference of about 6 per cent. in output in a full year. About 10 per cent. staff additional to total strength in 1938-39 may be assumed to be now employed on the manufacture of duplicate parts previously imported from abroad or purchased from outside. The delays in securing spare parts and admittedly heavier load of repairs have affected output by more than 50 per cent. on the basis of the evidence of the B. B. & C. I. Railway. The Adjudicator's Award in respect of the liberalisation of Leave Rules will require 20 per cent. leave reserves for skilled labour.

Similar is the position in regard to Carriage and Wagon Shops. A Works Manager of Carriage and Wagon Workshop on the M. S. M. Railway recently informed me that the average time required in the same shops for rehabilitation of E. P. Railway coaching stock is 750 man days as against 200 or 250 man days for similar work on the M.S.M. Railway stock.

In the circumstances, in my view a stronger case exists for increasing the present workshop staff to meet the present heavy arrears of repair work and therefore to indicate that there is a general surplus and that too to the extent of 36 per cent. in Locomotive Workshops and 71 per cent. in Carriage and Wagon Shops on all the Railways will be drawing a totally misleading and unfair conclusions especially when figures of actual man hours or man days spent are not available. My view is there is shortage of staff.

#### CHAPTER IV.—*Paragraph 77*

I should like to make some observations about the IBCON organisation which is being employed to make time studies in the Railway Workshops at a cost of Rs. 3,000 per mensem. Their representatives appeared before us and confessed that they are not mechanical engineers and cannot verify their conclusions by getting them tested in actual practice. The Mechanical Engineers of the E. I. and B. N. Railways did not agree with the estimates of surplus mentioned in the IBCON Reports nor about their conclusions on balancing of different categories of workers. The Bedeaux System of Time Studies on which IBCON methods are based has been opposed as misleading and inhuman by the British Trade Union Congress and American Trade Unions. There is a lot of misleading campaign against the Railway workers based on IBCON Report which states that "the effective work put in per 8 hour day by machinists, fitters and coolies was  $3\frac{1}{2}$ , 2 and  $1\frac{1}{2}$  hours respectively or an overall average of slightly over  $2\frac{1}{2}$  hours." This Report is based on a study of the work of about less than 1 per cent. of the Workshop Staff by IBCON methods which are merely academical, unverifiable and unaccepted even by the Technical Officers of the Railways. I recommend that no further expenditure should be incurred on IBCON studies as they are not only wasteful but positively misleading.

The suggestion about removing disruptive elements among labour should be applied equally against such elements in the higher ranks also who conveniently invoke the name of the National Government for disseminating discontent.

#### *Paragraphs 87 and 88*

I dissent from the recommendation that the railways should offload the manufacture of spare parts to private source and that the Railways should not undertake the manufacture of fittings as a permanent policy. In this connection, I can do no better than quote the following expert opinion of Raven Committee about Indian Railway Workshops:—

"It is our considered opinion that, even if private enterprise were capable of raising sufficient capital to accomplish the feat of supplying railway requirements, delays in supply would be inevitable and would militate against the expeditious repair of rolling stock, unless stocks out of all proportion to the work on hand, were maintained on each Railway. Considering the immense disadvantages of the railways being dependent for such supplies on outside agencies—and the failure of firms to make deliveries to time has not been uncommon—we have little hesitation in recommending that the manufacture of spare parts be conducted by the State Railway Workshops.

In this we are supported by the general practice on other Railways of the world, including those which are more favourably situated as regards proximity to a competitive market for such spares." (Paragraph 378 of Raven Committee's Report.)

In view of this, and other reasons mentioned in my note on paragraph 45, encouragement of private enterprise is a wrong policy.

#### CHAPTER IX—*Paragraphs 166 and 167*

I do not agree with the recommendation that the Financial Advisers of the individual railways should be provided with additional staff and other facilities for advising on development earnings. This should be the main business of the commercial experts of the Railways and not that of the financial officers. They can always submit their suggestions if they have any.

#### CHAPTER XIV—*Grainshops*

I consider that the All India Railwaymen's Federation has made constructive suggestions about the Railway Grainshops. According to their Press Communique of 16th May 1947, the Government of India are obligated to grant dearness relief according to the Central Pay Commission's recommendation based on the cost of living index. As long as this quantum of relief is not granted, there is no justification for forcing a reduction of the present total relief as proposed by the Railway Grainshops Enquiry Committee and thus inviting labour trouble. Individual option for workers with families of below average size is to be welcomed and the Government should negotiate with organised labour to hand over the management of the Railway Grainshops after implementing the Central Pay Commission's recommendation about quantum of dearness relief.

S. GURUSWAMI,

5-11-48.

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**APPENDICES**  
**TO THE**  
**REPORT OF THE INDIAN RAILWAY**  
**ENQUIRY COMMITTEE, 1947.**

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## APPENDIX I

*Minutes of an informal meeting of the High Power Railway Enquiry Committee held at New Delhi on 22nd November 1946.*

The Committee met in the office of the Chief Commissioner, Railways, at 2.30 p.m. on Friday the 22nd November, 1946, Colonel R. B. Emerson, C.I.E., O.B.E., Chief Commissioner, attended the Meeting.

2. The following were present:—

1. Mr. K. C. Neogy, M.L.A. (Central), Chairman.
2. Khan Mohammad Yamin Khan, Deputy President, Central Legislative Assembly.
3. Mr. I. S. Puri, C.I.E., Additional Financial Commissioner, Railways.
4. Mr. J. N. Nanda, General Manager, H.E.H. the N. S. Railway.
5. Mr. R. de K. Maynard, C.I.E., General Manager, M. & S. M. Railway.
6. Mr. M. N. Chakravarti, O.S.D., Railway Board, Secretary to the Committee.

3. Before discussion of the Agenda was taken up, Mr. R. de K. Maynard said that he thought that he should bring to the notice of the Chairman that for certain private reasons which might require his presence in England after the date of his normal retirement in February, it might not be possible for him to remain in India and serve as a Member of the Committee. He said that he did not wish it to be felt that he was attending this Meeting under false pretences, and that if the Chairman felt that in view of the uncertainty of him serving on the Committee, it would be better for him to withdraw, he would quite understand and would do so.

The Chairman said that he appreciated the position but hoped that Mr. Maynard would remain and give them the benefit of his experience.

4. The Chief Commissioner, Railways, after reviewing the background, explained that the Committee had been formed in accordance with the recommendation contained in the Resolution passed by the Railway Standing Finance Committee on the 11th June, 1946. The terms of reference are

- (a) Suggesting ways and means of securing improvement in net earnings by
  - (i) economies in all branches of railway administration, and
  - (ii) any other means.
- (b) Ascertaining the extent of staff surplus to requirements and suggesting practical methods of absorbing them in railway service.

5. Khan Mohammad Yamin Khan stated that he was not clear what was meant by 'net earnings' and desired that payment of interest charges, conversion of loans, etc., should be within the purview of the Committee. Mr. Puri explained that 'net earnings' were arrived at by deducting from the gross earnings the ordinary working expenses, appropriation to depreciation fund and payment to worked lines and that interest was the first charge on such net earnings. After some discussion it was decided that the question of interest rates should not form part of the formal enquiry, but could be considered in a general manner in the light of further study of the matter.

6. Consideration of the title by which the Committee was to be known was then taken up and it was decided that it should be known as "The Indian Railway Enquiry Committee 1947".

7. The approximate date for the Committee to assemble and commence regular sittings was fixed as early April, 1947, soon after the budget session. It was expected that by that time the Adjudicator's award on the hours of work, weekly rest, leave reserve and leave rules and the Government decision thereon, would be available to the Committee. At Chairman's suggestion it was agreed that such Members as could in the meantime conveniently visit important yards or areas should be accorded the facility for making investigations.

8. The memorandum on the general plan and field of enquiry prepared for the Committee was then considered and accepted as the starting point. This plan, however, could be amplified as it proceeded by Mr. Puri, who would decide whether any reference to other members was necessary. Likewise it would be for the other members to make suggestions to Mr. Puri.

Khan Mohammad Yamin Khan at this stage pointed that he had another engagement and withdrew from the Meeting.

The doubtful points mentioned in paragraph 2 of the Memorandum were considered and it was decided that it would be within the scope of the Committee to make suggestions for improvement in the system of Railway statistics, but that questions like amortisation, building up a general reserve, method of paying interest charges need not be examined except in a general manner, though prospective railway earnings would have to be considered. The Chief Commissioner pointed out that the Board had undertaken an examination of the prospective traffic load, earnings, and the likely working expenses for the ensuing seven years and that conclusions were likely to be reached shortly. It was decided that the Committee would accept the conclusions finalised by the Railway Board, subject to any comments that it might like to make.

The Chairman desired that reports of previous railway enquiry committees of this nature should be examined and the action taken thereon by Government made available to the Committee. This was agreed to and the Secretary was directed to collect the necessary papers.

9. The chairman raised the question whether responsible commercial bodies should not be invited to express their views and make suggestions. It was agreed that the three federation of Chambers of Commerce only need be approached. They are:—

The Associated Chambers of Commerce, Calcutta; Federation of Indian Chambers of Commerce and Industry, Delhi and Federation of Muslim Chambers of Commerce and Industry, Delhi. A letter on general terms will be issued to these bodies who should be told that Mr. Puri will be visiting various places in the near future and would be glad to meet the representatives of these bodies for any information which they may need as to the character and scope of the enquiry or any other point.

The Chairman asked for a list of officers who served in senior railway appointments in the past, and are still available in India, so that he might send to them a personal invitation to help the Committee in its task. The Chief Commissioner undertook to supply the Committee with such a list.

10. The Committee also approved of the note prepared for them outlining the data that should be collected preliminary to the enquiry, though it was realised that the note would require amplification and modification as the investigation proceeded. It was further decided that the best way of collecting the information would be for Mr. Puri and Chakravarti to visit Railways and discuss the matter with the General Managers and their officers and then decide on the most convenient and suitable form in which information should be compiled by each railway.

11. The Chairman stressed the need of a competent statistician capable of interpreting railway statistics to assist the Committee. The Chief Commissioner took note of this demand.

Mr. Puri pointed out that it would not be possible for the Secretary to do single-handed all the work required and that additional gazetted assistance would be necessary later. The Chief Commissioner agreed that when Mr. Puri found that the Secretary was overloaded, he would be given assistance. It was observed that the Wedgwood Committee had two Joint Secretaries, besides a rate and statistical officer.

M. N. CHAKRAVARTI,

Secretary-designate,

Indian Railway Enquiry Committee.

## APPENDIX II

### (A) Tour undertaken by the Committee in 1947—

Station visited	Railway	Date of visit
Ghaziabad . . . . .	N.W.	April 29th
Saharanpur . . . . .	N.W.	April 30th
Kalka . . . . .	N.W.	May 1st
Bina . . . . .	G.I.P.	July 3rd
Nagpur . . . . .	G.I.P.	" 4th
Bhusaval . . . . .	G.I.P.	" 5th
Kalyan . . . . .	G.I.P.	" 6th
Dhond . . . . .	G.I.P.	" 6th
Arkonam . . . . .	M.&S.M.	" 7th
Madras . . . . .	M.&S.M.	" 8th to 11th
Mettur Dam . . . . .	S.I.	" 12th
Erode . . . . .	S.I.	" 12th
Trichinopoly . . . . .	S.I.	" 13th & 14th again on 16th & 17th
Madura . . . . .	S.I.	" 14th
Dhanushkodi . . . . .	S.I.	" 15th
Cochin Harbour Terminus . . . . .	S.I.	" 18th
Mettupalayam . . . . .	S.I.	" 19th
Ootacamund . . . . .	S.I.	" 20th to 22nd
Pykara Works . . . . .	S.I.	" 21st
Bangalore . . . . .	M.S.	" 20th to 21st
Bangalore . . . . .	M.S.	" 25th Full
Mysore . . . . .	M.S.	" 22nd to 24th
Waltair and Vizagapatnam Port . . . . .	B.N.	" 27th
Bilaspur . . . . .	B.N.	" 28th
Adra . . . . .	B.N.	" 30th
Tatanagar . . . . .	B.N.	" 31st
Dhanbad, Asansola and Coal Area . . . . .	E.I.	August 1st to 2nd.
Ajmer . . . . .	B.B.	" 9th to 10th
Ratlam . . . . .	B.B.	" 11th
Dohad . . . . .	B.B.	" 12th
Ahmedabad . . . . .	B.B.	" 13th
Bombay . . . . .	B.B. & G.I.P.	" 14th to 22nd

### (B) Tour undertaken by the Committee in 1948.—

Bareilly . . . . .	E.I.	March 28th
Lucknow . . . . .	E.I.	" 29th & 30th
Kanpur . . . . .	E.I.	" 31st
Gorakhpur . . . . .	O.T.	April 1st to 3rd
Semaria . . . . .	O.T.	" 4th
Mokameh Ghat . . . . .	E.I.	" 4th
Jamulpur . . . . .	E.I.	" 5th & 6th
Dinapore . . . . .	E.I.	" 7th
Patna . . . . .	E.I.	" 7th
Mughalsarai . . . . .	E.I.	" 8th

<i>Station visited</i>	<i>Railway</i>	<i>Date of visit</i>
Asansol . . . . .	E. I. . . . .	April 9th
Cuttack . . . . .	B. N. . . . .	" 10th
Adra, Pathardihi and Coal Area . . . . .	B. N. . . . .	" 11th
Kharagpur . . . . .	B. N. . . . .	" 12th & 13th
Calcutta . . . . .	E. I. & B. N. . . . .	" 14th to 17th
Shillong . . . . .	Assam . . . . .	May 22nd to 24th
Pandu . . . . .	Assam . . . . .	May 22nd to 25th
Kancharapara . . . . .	E. I. . . . .	April 19th
Allahabad . . . . .	E. I. . . . .	" 20th
Agra Cantt. . . . .	G. I. P. . . . .	" 21st
Bombay . . . . .	G. I. P. & B. B. . . . .	May 3rd
Dohad . . . . .	B. B. . . . .	" 4th
Bhusaval . . . . .	G. I. P. . . . .	June 28th to July 1st
Jhansi . . . . .	G. I. P. . . . .	July 2nd
Ajmer . . . . .	B. R. . . . .	" 3rd
Tatanagar . . . . .	B. N. . . . .	" 4th & 5th
		" 12th & 13th
		" 16th & 17th

## APPENDIX III

(A) List of witnesses who gave oral evidence in 1947.

<i>(a) Officers of the Railway Board</i>	<i>Place of evidence</i>	<i>Date of evidence</i>
1. Major H. L. Carter, Officer on Special Duty . . . . .	Simla . . . . .	May 30th
2. Mr. K. L. Crawford - Joint Director, Post War Rating . . . . .	Simla . . . . .	June 7th
3. Messrs. W. Oldfield, Director, Mechanical Engineering & J. N. Gopnton, Chief Controller of Standardisation . . . . .	New Delhi . . . . .	June 30th
4. Mr. P. M. Joseph, Director, Accounts . . . . .	" . . . . .	July 1st
5. Mr. G. A. Rowleson, Member, Transport . . . . .	" . . . . .	" 2nd
6. Mr. A. A. Brown, Director, Traffic (General) . . . . .	" . . . . .	" 2nd
7. Mr. C. G. Start, Director, Civil Engineering . . . . .	" . . . . .	" 2nd
8. Mr. A. Balakrishnan, Director, Finance . . . . .	" . . . . .	" 2nd
9. Mr. A. R. Edington, Director, Stores . . . . .	" . . . . .	" 2nd

(b) *Railway Officers*

1. Mr. T. D. Macintosh, Loco & Carriage Superintendent, B. B. & C. I. Railway . . . . .	Simla . . . . .	May 24th
2. Mr. C. W. Clarke, Chief Mechanical Engineer, G. I. P. Railway . . . . .	" . . . . .	" 24th
3. Mr. H. M. R. Morse, Chief Mechanical Engineer, N. W. Railway . . . . .	" . . . . .	" 24th
4. Mr. W. Miller, Loco and Carriage Superintendent, O. T. Railway . . . . .	" . . . . .	" 24th
5. Mr. P. Morris, Chief Mechanical Engineer, M. & S. M. Railway . . . . .	" . . . . .	" 24th
6. Mr. N. N. Kakati, Deputy Chief Mechanical Engineer, B. N. Railway . . . . .	" . . . . .	" 24th
7. Mr. T. T. Lambs, Deputy Chief Mechanical Engineer, E. I. Railway . . . . .	" . . . . .	" 24th
8. Rai Bahadur U. N. Banerjee, Deputy Chief Mechanical Engineer, B. A. Railway . . . . .	" . . . . .	" 24th
9. Mr. J. F. Wright, Deputy Chief Mechanical Engineer, S. I. Railway . . . . .	" . . . . .	" 24th
10. Mr. C. S. Rao, Director, Railway Clearing Accounts Office . . . . .	Delhi . . . . .	July 1st
11. Mr. V. T. Narayanan, Superintendent Railway Training School, Bina . . . . .	Bina . . . . .	" 3rd
12. Mr. G. Mohiuddin, Road Officer, G. I. P. Railway . . . . .	Nagpur . . . . .	" 4th
13. Mr. D. R. Suri, Divisional Traffic Manager, G. I. P. Railway . . . . .	" . . . . .	" 4th
14. Mr. N. A. Shad, District Commercial Officer, B. N. Railway . . . . .	" . . . . .	" 4th
15. Khan Bahadur S. M. Amir, Divisional Transportation Superintendent, G. I. P. Railway . . . . .	Bhusaval . . . . .	" 5th
16. Mr. E. C. B. Thornton, Traction Superintendent, G. I. P. Railway . . . . .	Kalyan . . . . .	" 6th
17. Mr. R. W. R. Rankin, Chief Engineer, M. & S. M. Railway . . . . .	Madras . . . . .	" 8th
18. Mr. S. Sen, Deputy Signal Engineer, M. & S. M. Railway . . . . .	" . . . . .	" 8th
19. Mr. P. A. F. Cory, Chief Operating Superintendent, M. & S. M. Railway . . . . .	" . . . . .	" 8th
20. Mr. R. J. J. Porry, Chief Commercial Manager, M. & S. M. Railway . . . . .	" . . . . .	" 9th
21. Mr. P. Morris, Chief Mechanical Engineer, M. & S. M. Railway . . . . .	" . . . . .	" 9th
22. Mr. C. Hill Turner, Controller of Stores, M. & S. M. Railway . . . . .	" . . . . .	" 9th
23. Mr. A. C. Read, Deputy General Manager (Establishment) M. & S. M. Rly. . . . .	" . . . . .	" 9th

## APPENDIX.III—Continued

	Place of evidence	Date of evidence
24. Khan Bahadur J. D. Bhole, Financial Adviser & Chief Accounts Officer, M. & S. M. Rly. . . . .	Madras . . . . .	July 9th
25. Mr. W. G. W. Reid, General Manager, M. & S. M. Rly. . . . .	" . . . . .	" 11th
26. Mr. A. I. W. Jones, Chief Engineer, S. I. Railway . . . . .	Trichinopoly . . . . .	" 13th
27. Mr. Sidney Smith, Chief Operating Superintendent, S. I. Railway . . . . .	" . . . . .	" 13th
28. Mr. L. T. Hockley, Chief Commercial Superintendent, S. I. Railway . . . . .	" . . . . .	" 13th
29. Sir Jeffery Reynolds, General Manager, S. I. Railway . . . . .	" . . . . .	" 13th
30. Mr. S. Srinivasan, Chief Auditor, S. I. and M. & S. M. Railways . . . . .	" . . . . .	" 13th
31. Mr. M. I. Mansfield, Marine Superintendent, S. I. Railway . . . . .	Dhanushkodi . . . . .	" 15th
32. Mr. A. L. Baker, Chief Mechanical Engineer, S. I. Railway . . . . .	Trichinopoly . . . . .	" 16th
33. Mr. C. D. Ellicott, Controller of Stores, S. I. Railway . . . . .	" . . . . .	" 16th
34. Mr. K. Sadagopan, Financial Adviser & Chief Accounts Officer, S. I. Railway . . . . .	" . . . . .	" 16th
35. Mr. Seshagiri Rao, Deputy General Manager (Personnel), S. I. Railway . . . . .	" . . . . .	" 17th
36. Mr. J. F. Wright, Deputy Chief Mechanical Engineer (Power), S. I. Railway . . . . .	" . . . . .	" 17th
37. Mr. T. Venkatasubramania Ayyar, Statistical Officer, S. I. Railway . . . . .	" . . . . .	" 17th
38. Mr. Madhav Rao, Chief Auditor, Mysore State Railway . . . . .	Mysore . . . . .	" 22nd
39. Mr. M. A. Rannanjan, Chief Engineer, Mysore State Railway . . . . .	" . . . . .	" 23rd
40. Mr. Ruayeth Hussain, Traffic Manager, Mysore State Railway . . . . .	" . . . . .	" 23rd
41. Mr. M. Cheluve, Loco Superintendent, Mysore State Railway . . . . .	" . . . . .	" 24th
42. Mr. M. Venkatesh, General Manager, Mysore State Railway . . . . .	" . . . . .	" 24th
43. Mr. N. V. Chinnappa, Controller of Stores, Mysore State Railway . . . . .	" . . . . .	" 24th
44. Mr. S. Nanjun Diah, Port Administrative Officer, Vizagapatam Port . . . . .	Vizagapatam . . . . .	" 27th
45. Mr. J. A. A. Shea, Superintendent Traffic, Vizagapatam Port . . . . .	" . . . . .	" 27th
46. Mr. M. D. Connoll, District Transportation Officer, B. N. Railway . . . . .	Bilaspur . . . . .	" 28th
47. Mr. W. M. Smalley, Assistant Commercial Officer, B. N. Railway . . . . .	" . . . . .	" 28th
48. Mr. A. K. Gupta, District Engineer, B. N. Railway . . . . .	" . . . . .	" 28th
49. Mr. K. M. Ishuq, Coal Manager, B. N. Railway . . . . .	Adra . . . . .	" 30th
50. Mr. P. C. Mukerjee, Deputy General Manager, E. I. Railway . . . . .	" . . . . .	" 30th
51. Mr. B. G. Basu, Controller of Stores, E. I. Railway . . . . .	" . . . . .	" 30th
52. Mr. P. C. Ghosh, Controller of Stores, B. N. Railway . . . . .	" . . . . .	" 30th
53. Khan Bahadur G. Faruque, General Manager, E. I. Railway . . . . .	Asansol . . . . .	August 2nd
54. Mr. Des Raj Malhotra, Chemist & Metallurgist, B. B. & C. I. Railway . . . . .	Ajmer . . . . .	" 8th
55. Mr. G. B. Steers, Works Manager, Loco B. B. & C. I. Railway . . . . .	" . . . . .	" 9th
56. Mr. P. R. Aggarwal, Works Manager, Carriage & Wagon B. B. & C. I. Railway . . . . .	" . . . . .	" 9th
57. Mr. Mool Narain, Traffic Superintendent, B. B. & C. I. Railway . . . . .	" . . . . .	" 9th
58. Mr. H. R. Eveleigh N. V. I., Engineer-in-Chief, B. B. & C. I. Railway (M. G.) . . . . .	" . . . . .	" 10th
59. Mr. D. C. Vovaina, Senior Accounts Officer, B. B. & C. I. Railway . . . . .	" . . . . .	" 10th
60. Mr. Ziauddin Khan, Executive Engineer, B. B. & C. I. Railway . . . . .	Ratlam . . . . .	" 11th
61. Mr. J. W. Maye, District Loco Superintendent, B. B. & C. I. Railway (Gangapur City) . . . . .	" . . . . .	" 11th
62. Mr. K. Janakiraman, District Traffic Superintendent, B. B. & C. I. Railway . . . . .	" . . . . .	" 11th
63. Mr. T. D. Macintosh, O. B. E., Loco & Carriage Superintendent, B. B. & C. I. Railway . . . . .	Dohad . . . . .	" 12th
64. Mr. J. W. Maye, Works Superintendent, B. B. & C. I. Railway . . . . .	" . . . . .	" 12th
65. Mr. B. H. Mayes, Loco Works Superintendent, B. B. & C. I. Railway . . . . .	" . . . . .	" 12th
66. Mr. D. S. Muegee, Deputy Chief Mechanical Engineer, G. I. P. Railway . . . . .	Bombay . . . . .	" 14th

APPENDIX III.—*contd.*

	Place of evidence	Date of evidence
67. Mr. H. Holt Keene, Chief Electrical Engineer, G. I. P. Bombay Railway.	"	August 14th
68. Mr. N. K. Kanitkar, Deputy Chief Mechanical Engineer, G. I. P. Railway.	"	" 14th
69. Mr. N. M. Ghosh, Chemist and Metallurgist, G. I. P. Railway.	"	" 14th
70. Mr. T. D. Macintosh, O.B.E., Loco & Carriage Superintendent, Lower Parel, B. B. & C. I. Railway.	"	" 14th
71. Mr. N. S. Sen, Chief Traffic Superintendent, G. I. P. Railway.	"	" 19th
72. Mr. E. C. B. Thornton, Traction Superintendent, G. I. P. Railway.	"	" 19th
73. Mr. H. E. Cox, Deputy Chief Engineer (Signals), G.I.P. Railway.	"	" 19th
74. Mr. H. P. Hira, Chief Traffic Manager, G. I. P. Railway.	"	" 19th
75. Mr. V. B. Arto, Financial Adviser & Chief Accounts Officer, G. I. P. Railway.	"	" 19th
76. Mr. C. W. Clarke, Chief Mechanical Engineer, G. I. P. Railway.	"	" 19th
77. Mr. J. S. Bearcroft, Chief Engineer, B. B. & C. I. Railway.	"	" 20th
78. Mr. H. C. Towers, Deputy Chief Engineer (Signals), B. B. & C. I. Railway.	"	" 20th
79. Mr. O. N. Soper, Chief Electrical Engineer, B. B. & C. I. Railway.	"	" 20th
80. Mr. P. L. Verma, Divisional Electrical Engineer, B. B. & C. I. Railway.	"	" 20th
81. Mr. R. T. Collins, E. D., Financial Adviser & Chief Accounts Officer, B. B. & C. I. Railway.	"	" 20th
82. Mr. G. C. K. Jolley, Controllers of Stores, B. B. & C. I. Railway.	"	" 20th
83. Mr. K. K. Rao, Controller of Stores, G. I. P. Railway.	"	" 20th
84. Mr. S. G. Pick, M. C., E. D., Chief Traffic Manager, B. B. & C. I. Railway.	"	" 20th
85. Mr. L. A. Panikkar, Chief Auditor, G. I. P. and B. B. & C. I. Railway.	"	" 20th
86. Lt. Col. J. E. Clutterbuck, Chief Engineer, G. I. P. Railway.	"	" 21st
87. Mr. W. Hood, General Manager, G. I. P. Railway.	"	" 21st
88. Mr. K. C. Bakhle, General Manager, B. B. & C. I. Railway.	"	" 21st
89. Mr. A. R. Sarin, Controller of Railway Supplies.	New Delhi	October 7th

(c) *Representative of Provincial Governments and Mysore State*

1. Mr. S. K. Banerjee, Secretary, Civil Industries, C. P. Government.	"	July 4th
2. Dr. K. A. N. Rao, Director of Industries, C. P. Government.	"	" 4th
3. Mr. K. Bakthayatsalam, Minister, Public Works, Government of Madras.	Madras	" 11th
4. Mr. L. Aldred, I. C. S., Deputy Commissioner, Ajmer-Merwara.	Ajmer	August 9th
5. Dewan Bahadur Dr. T. G. M. Royan, Dewan-in-Charge, Mysore State.	Bangalore	July 25th
6. Rajamantrapravina J. Appaji Gowda, Revenue & Communication Minister, Mysore State.	"	" 25th
7. Mr. Sidappa, P. W. D. Minister, Mysore State.	"	" 25th
8. Mr. M. Sheriff, Law Minister, Mysore State.	"	" 25th
9. Mr. Vedavasacharya, Chief Secretary, Mysore State.	"	" 25th
10. Mr. R. Ramakrishna, Secretary, Railway Electrical, Mysore State.	"	" 25th

(d) *Government Officers other than those included under (a), (b) and (c)*

1. Mr. H. M. Mathews, Electrical Commissioner to the Government of India.	Simla	May 27th
2. Mr. H. K. Kripalani, C. I. E., Chairman, Federal Public Service Commission.	"	June 11th
3. Mr. E. R. Seshu Iyer, C. I. E., Deputy Auditor General of India.	"	" 16th
4. Mr. Dev Datt, M. A., M. I. C. E., Chief Government Inspector of Railways.	"	" 17th
5. Mr. W. R. Tennant, C. I. E. Auditor General of India.	"	" 18th
6. Mr. C. Bhaskaraiya, Director of Railway Audit.	"	" 18th
7. Mr. M. S. Venkataraman, Chairman, Madras Port Trust.	Madras	" 11th
8. Mr. A. G. Milne, Administrative Officer & Harbour Engineer-in-Chief, Port of Cochin.	Cochin	" 18th

## APPENDIX III—contd.

	Place of evidence	Date of evidence
9. Messrs P. B. Nayak and K. B. Rao, Industry & Supply Department	New Delhi	August 7th
10. Mr. S. F. Plew, Police Advisor and Superintendent, Railway Police, Ajmer-Merwara	Ratlam	" 11th
11. Mr. F. M. Surveyor, Chairman, Port Trust, Bombay	Bombay	" 22nd
12. Mr. H. A. Gaydon, Manager, Bombay Port Trust	"	" 22nd

## (c) Retired Railway Officers

1. Rai Bahadur B. D. Puri, Retired Chief Accounts Officer, N. W. Railway	Simla	June 13th
2. Mr. H. Rangachari, Retd., G. M., Mysore State Railway	Bangalore	July 20th
3. Mr. S. Purnaiya, Retd., C. T. S., S. I. Railway	"	" 20th
4. Mr. Y. K. Rama Chauder Rao, Retd. G. M. Mysore State Railway	Mysore	" 22nd
5. Mr. K. Gundappa, Retd. Traffic Manager, M. S. Railway	"	" 22nd
6. Rajasovapraska R. N. Mirza, Retd. General Manager, M. S. Railway	Bangalore	" 25th

## (f) Representatives of the Chambers and Associations

1. Muslim Chamber of Commerce, Madras	Madras	" 10th
2. Southern India Chamber of Commerce, Madras	"	" 10th
3. Andhra Chamber of Commerce, Madras	"	" 10th
4. Managing Director, Southern Coal Ltd.	Madras	" 14th
5. Trichinopoly District Chamber of Commerce	Trichinopoly	" 16th
6. Mysore Chamber of Commerce, Bangalore	Mysore	" 23rd
7. The Indian Colliery Owners Association, Jharia	Dhambud	August 1st
8. Indian Mining Federation, Calcutta	"	" 1st
9. Indian Mining Association, Calcutta	"	" 1st
10. Indian Coal Merchants Association, Jharia	"	" 2nd
11. New Govindapur Coal Co., Ltd., with Other Coal Companies	"	" 2nd
12. Ahmedabad Mill Owners' Association	Ahmedabad	" 13th
13. All India Manufacturers' Organisation, Bombay	Bombay	" 19th
14. Association of Indian Industries, Bombay	"	" 19th
15. Indian Merchants Chamber, Bombay	"	" 21st
16. Indian Roads & Transport Development Association, Ltd.	"	" 22nd

## (g) Representatives of the Railway Employees' Unions or Association

1. South Indian Railway Employees' Association, Tiruvannur	Trichinopoly	July 16th
2. South Indian Railway Workers Union, Golden Rock	"	" 16th
3. South Indian Railway Labour Union, Golden Rock	"	" 16th
4. Mysore State Railway Employees Association	Bangalore & Mysore	" 21st & 24th

## (B) LIST OF WITNESSES WHO GAVE ORAL EVIDENCE IN 1948

## (a) Officer of the Railway Board

1. Mr. F. C. Badliwar, Member Staff, Railway Board	New Delhi	March 17th
2. Dr. H. J. Nichols, Member Engineering, Railway Board	"	" 17th
3. Mr. I. S. Puri, Financial Commissioner, Railways	"	" 18th
4. Mr. V. P. Bhandarkar, Member Transportation, Railway Board	"	" 19th
5. Mr. K. C. Bakhle, Chief Commissioner, Railways	"	" 19th
6. Mr. K. C. Bakhle, Chief Commissioner, Railways	"	May 28th & October 7th
7. Mr. I. S. Puri, Financial Commissioner, Railways	"	" 7th
8. Mr. F. C. Badliwar, Member Staff, Railway Board	"	" 7th
9. Mr. W. Oldfield, Director Mechanical Engineering, Railway Board	"	" 20th
10. Mr. K. C. Bakhle, Chief Commissioner, Railways	"	June 1st
11. Mr. I. S. Puri, Financial Commissioner, Railways	"	" 1st
12. Mr. V. P. Bhandarkar, Member Transportation, Railway Board	"	" 1st
13. Mr. K. C. Bakhle, Chief Commissioner, Railways	"	" 2nd
14. Mr. I. S. Puri, Financial Commissioner, Railways	"	" 2nd
15. Mr. W. Hood, Member Engineering, Railway Board	"	" 2nd
16. Mr. K. C. Bakhle, Chief Commissioner, Railways	"	" 3rd
17. Mr. I. S. Puri, Financial Commissioner, Railways	"	" 3rd
18. Mr. K. L. Crawford, Director Traffic, Railway Board	"	July 27th
19. Mr. S. S. Ramasubbhan, Secretary, Railway Board	"	" 27th

APPENDIX III.—*contd.*

	Place of evidence	Date of evidence
(b) <i>Railway Officers.</i>		
1. Rai Bahadur P. C. Bahl, Chief Administrative Officer, E. P. Railway.	Delhi	March 27th
2. Mr. J. A. Wilson, Dist. Loco Superintendent, O. T. Bareilly Railway.	"	" 28th.
3. Mr. F. B. Jones, Works Manager, O. T. Railway	"	" 28th.
4. Mr. A. N. Khosla, Assistant Controller of Stores	"	" 28th.
5. Mr. K. P. Modwell, Divisional Superintendent, E. I. Railway.	Lucknow	" 29th.
6. Mr. D. A. Jenkins, Special Ticket Officer, O. T. Railway	"	" 29th.
7. Mr. P. Sahai, Superintendent Power, E. I. Railway	"	" 29th.
8. Mr. N. N. Tannan, Works Manager, Carriage & Wagon Workshop, E. I. Railway.	"	" 29th.
9. Mr. E. M. Padwick, Superintendent Commercial, E. I. Railway.	"	" 30th.
10. Mr. S. Chakravarty, Works Manager, Loco Shop, E. I. Railway.	"	" 30th.
11. Mr. P. S. Jones, Deputy Controller of Stores, E. I. Railway.	"	" 30th.
12. Mr. H. N. Tripathi, Superintendent Transportation, E. I. Railway.	"	" 30th.
13. R. B. M. A. Azami, Chairman, E. I. & O. T. Railways Joint Subordinate Service Commission.	"	" 30th.
14. Sardar Bahadur S. S. Gyani, Member	"	" 30th.
15. R. B. R. P. Ghoshal, Member	"	" 30th.
16. Mr. D. C. Das, Senior Superintendent Works, E. I. Railway.	"	" 30th.
17. Mr. S. S. Verma, Divisional Accounts Officer, E. I. Railway.	"	" 30th.
18. Mr. K. P. Modwell, Divisional Superintendent, E. I. Railway.	"	" 30th.
19. Mr. J. N. Das, Divisional Superintendent, Allahabad E. I. Railway.	Kanpur	" 31st.
20. Mr. S. L. Saksona, Loco Superintendent, O. T. Railway	Gorakhpur	April 1st.
21. Mr. Prem Nahi, Controller of Stores, O. T. Railway	"	" 1st.
22. Mr. P. L. Roy, Traffic Manager, O. T. Railway	"	" 2nd.
23. Mr. B. W. Allon, Offg. Chief Engineer, O. T. Railway	"	" 2nd.
24. Mr. K. Krishna Rao, F. A. & C. A. O., O. T. Railway	"	" 2nd.
25. Mr. G. C. Trehan, General Manager, O. T. Railway	"	" 3rd.
26. Mr. A. K. Chakravarti, Offg. Supdt., Way and Works, E. I. Railway.	Moradabad (Dist.)	" 4th.
27. Mr. K. L. Nanda, Assistant Traffic Superintendent, O. T. Railway, in the presence of Mr. G. C. Trehan, General Manager, O. T. Railway.	"	" 4th.
28. Mr. E. R. Fleeson, Chief Mechanical Engineer, E. I. Railway.	Jamulpur	" 5th.
29. Mr. B. Basu, Deputy Chief Mechanical Engineer, E. I. Railway.	"	" 5th.
30. Mr. R. G. Basu, Controller of Stores, E. I. Railway	"	" 6th.
31. Mr. P. C. Mukerjee, Divisional Superintendent, E. I. Railway.	Dinapore	" 7th.
32. Mr. N. C. Kapoor, Divisional Superintendent, E. I. Railway.	Asansol	" 9th.
33. Mr. J. Singh, Superintendent Transportation	"	" 9th.
34. Mr. K. B. Mathur, Chief Operating Superintendent, E. I. Railway.	"	" 9th.
35. Mr. A. N. Roy, District Transportation Officer	Cuttack	" 10th.
36. Mr. M. A. Lawton, District Commercial Officer	"	" 10th.
37. Mr. S. N. Panikkar, District Engineer, B. N. Railway	"	" 10th.
38. Mr. L. M. D'Cruz, Coal Manager	Adra	" 11th.
39. Mr. A. E. Mitchell, Assistant Loco Carriage Supdt., B. N. Railway.	"	" 11th.
40. Mr. R. A. Phillips, Chief Mechanical Engineer, B. N. Railway.	Khargpur	" 12th.
41. Mr. P. C. Ghosh, Controller of Stores, B. N. Railway	"	" 12th.
42. Mr. I. S. Malik, Superintendent Transportation Traffic, B. N. Railway.	"	" 13th.
43. Mr. A. K. Basu, Chief Administrative Officer, Assam Railway.	Pandu	" 20th.
44. Mr. N. Laharry, Chairman Joint Service Commission	Calcutta	" 14th.
45. Mr. W. K. Orton, Transportation Manager, B. N. Railway	"	" 15th.
46. Mr. S. N. Gupta, Commercial Traffic Manager, B. N. Railway.	"	" 15th.
47. Mr. P. L. Gupta, Chief Engineer, E. I. Railway	"	" 15th.



APPENDIX III—*contd.*

	Place of evidence	Date of evidence
48. Mr. J. N. Macmillan, Deputy Chief Engineer, Signals, E. I. Railway.	Calcutta	April 15th.
49. Mr. E. G. E. Paddon, Chief Electrical Engineer, E. I. Railway.	"	" 15th.
50. Mr. S. K. Pannikar, Chief Engineer, B. N. Railway	"	" 16th.
51. Mr. W. J. Coods, Deputy General Manager Staff, B. N. Railway.	"	" 16th.
52. Mr. M. V. Ramana Rao, Personal Officer, B. N. Railway	"	" 16th.
53. Mr. N. N. Majumdar, Financial Adviser and Chief Accounts Officer, B. N. Railway.	"	" 16th.
54. Mr. P. K. Sarkar, Financial Adviser and Chief Accounts Officer, E. I. Railway.	"	" 16th.
55. Mr. S. J. P. Cambridge, General Manager, B. N. Railway	"	" 16th.
56. Mr. K. B. Mathur, Chief Operating Superintendent, E. I. Railway.	"	" 17th.
57. Mr. H. M. Jagtiani, Chief Commercial Manager, E. I. Railway.	"	" 17th.
58. Mr. W. G. Preston, Commander, Railway Protection Police	"	" 22nd.
59. Mr. I. N. Dey, (I. P.), Superintendent, Watch and Ward, E. I. Railway.	"	" 22nd.
60. Mr. N. K. Iyyengar, Chief Auditor	"	" 22nd.
61. Mr. P. K. Sarkar, Financial Adviser and Chief Accounts Officer, E. I. Railway.	"	" 22nd.
62. Mr. D. R. Carmody, Deputy General Manager (P), E. I. Railway.	"	" 22nd.
63. Mr. Saunders Jacobs, Engineer-in-Chief (Construction), E. I. Railway.	"	" 22nd.
64. Mr. J. C. Lamb, Deputy Chief Mechanical Engineer, (Works), E. I. Railway.	"	" 22nd.
65. Mr. B. C. Chatterjee, Deputy Chief Mechanical Engineer, (Running and Locomotives), E. I. Railway.	"	" 22nd.
66. Mr. E. R. Fleeton, Chief Mechanical Engineer, E. I. Railway.	"	" 23rd.
67. Mr. P. C. Basu, Deputy Chief Mechanical Engineer, Lillooah Shops.	"	" 23rd.
68. Mr. B. C. Mallik, Public Relation and Publicity Officer	"	" 24th.
69. Mr. E. R. Fleeton, Chief Mechanical Engineer, E. I. Railway.	"	" 24th.
70. Mr. V. Nihokantan, General Manager, E. I. Railway	"	" 24th.
71. Mr. J. N. Dass, Divisional Superintendent, E. I. Railway	Allahabad	May 3rd.
72. Mr. T. A. Joseph, Divisional Transportation Superintendent, G. I. P. Railway.	Agra Cantt.	" 4th.
73. Mr. J. N. Dass, Divisional Superintendent, E. I. Railway, Allahabad.	"	" 4th.
74. Mr. A. G. Kennedy, Movement Officer, B., B. & C. I. Railway, Bombay.	"	" 4th.
75. Rajkumar Ajit Singh, Traffic Supdt., B., B. & C. I. Railway, Ajmer.	New Delhi	" 12th.
76. Mr. W. R. Craig, Deputy Chief Mechanical Engineer, B., B. & C. I. Railway, Ajmer.	"	" 12th.
77. Mr. A. R. Sarin, Controller of Railway Supplies	"	" 13th.
78. Mr. K. C. Lall, Deputy Chief Mechanical Engineer, E. P. Railway.	"	" 16th.
79. Mr. B. B. Mathur, Deputy Transportation and Commercial Superintendent, E. P. Railway.	"	" 16th.
80. Mr. P. C. Bahl, Chief Administrative Officer, E. P. Railway.	"	" 16th.
81. Mr. H. K. L. Sethi, Deputy Chief Engineer, E. P. Railway	"	" 16th.
82. Mr. G. E. H. Williams, D. C. M. (Central Standards Office)	"	" 29th.
83. Mr. K. F. Antia, D. C. C.	"	" 29th.
84. Mr. R. C. Paranjoti, Chief Mechanical Engineer, G. I. P. Railway.	Matunga	June 29th.
85. Mr. R. K. Innes, Chief Mechanical Engineer, B., B. & C. I. Railway.	Bombay	" 29th.
86. Mr. L. G. Biggwither, Deputy Chief Mechanical Engineer	"	" 29th.
87. Mr. R. C. Paranjoti, Chief Mechanical Engineer, G. I. P. Railway.	"	" 29th.
88. Mr. D. B. Vacha, Works Manager, Matunga	"	" 29th.
89. Mr. C. H. DeSouza, Deputy Chief Mechanical Engineer	"	" 29th.
90. Mr. R. C. Paranjoti, Chief Mechanical Engineer, G. I. P. Railway.	Parel	" 30th.
91. Mr. N. S. Sen, General Manager, B., B. & C. I. Railway	Bombay	" 30th.
92. Mr. S. S. Vasist, General Manager, G. I. P. Railway	"	" 30th.
93. Mr. R. C. Paranjoti, Chief Mechanical Engineer, G. I. P. Railway.	"	" 30th.

## APPENDIX III—Contd

	Place of evidence	Date of evidence
94. Mr. R. T. Collins, Financial Advisor and Chief Accounts Officer, B. B. & C. I. Railway.	Bombay	July 1st.
95. Mr. V. B. Arta, Financial Advisor and Chief Accounts Officer, G. I. P. Railway.	"	" 1st.
96. Mr. R. K. Luns, Chief Mechanical Engineer, B. B. & C. I. Railway.	Dahol	" 2nd.
97. Mr. B. H. Mayas, Loco. Works Superintendent, Dahol	"	" 2nd.
98. Mr. Y. P. Kulkarni, Divisional Transportation Superintendent, G. I. P. Railway with other Divisional Officers.	Bhusaval	" 3rd.
99. Mr. S. Marchant, Divisional Transportation Superintendent, G. I. P. Railway with other Divisional Officers.	Latur	" 4th.
100. Mr. R. C. Paranjoti, Chief Mechanical Engineer, G. I. P. Railway.	"	" 5th.
101. Mr. P. C. Deshpande, Divisional Railway Clearing Accounts Office.	Delhi	July 10th and October 5th.
102. Mr. R. K. Luns, Chief Mechanical Engineer, B. B. & C. I. Railway.	Ajmer	July 12th and July 13th.
103. Mr. G. V. N. Acharya, Deputy Chief Mechanical Engineer	"	"
104. Mr. G. B. Steers, Works Manager Loco.	"	"
105. Dr. D. R. Mathotra, Chemist and Metallurgist, B. B. & C. I. Railway.	"	July 13th.

## (c) Representatives of Provincial Governments.

1. Mr. S. N. Chakravarti, Chief Engineer, U. P. Government	Lucknow	March 29th.
2. Mr. F. Swaminathan, I. C. S., Director of Industries, U. P. Government.	"	" 29th.
3. Sir Edward Matheson Scott, Road Development Officer	Kanpur	" 31st.
4. Mr. V. K. P. Pillai, Chief Secretary, to the Government of Bihar.	Patna	April 7th.
5. Mr. T. P. Singh, Secretary, P. W. D.	"	" 7th.
6. Mr. B. N. Misra, A. L. O. of Police	"	" 7th.
7. Hon'ble A. Q. Ansari, Minister for Public Works and Railways.	"	" 7th.
8. Mr. Saengaraj Singh, M. L. A.	"	" 7th.
9. Mr. Mohan Lal Bahl, Chief Engineer, P. W. D.	"	" 7th.
10. Mr. B. D. Pandey, Secretary, Supply Department	"	" 7th.
11. Mr. A. K. Ganguli, S. R. P.	"	" 7th.
12. Major G. H. Elton, Provincial Transport Commissioner	"	" 7th.
13. Hon'ble N. Kumbhoj, Minister Development, Orissa Government.	Cuttack	" 10th.
14. Mr. B. Sivaraman, Secretary, Supply and Transport Department.	"	" 10th.
15. Mr. R. R. Hazra, Chief Engineer, P. W. D.	"	" 10th.
16. Dr. H. B. Mohanty, Deputy Secretary, Planning Department.	"	" 10th.
17. Mr. K. C. Wadia, Chief Engineer	"	" 10th.
18. Mr. N. Senapati, Chief Administrator and Special Commissioner.	"	" 10th.
19. Mr. V. Rama Nathan, Secretary to Minister, Development	"	" 10th.
20. Mr. K. Balachandran, Secretary to Assam Government, Transport Department.	Shillong	" 19th.
21. Rajmohan Nath, Superintending Engineer	"	" 19th.
22. Mohammad Hafei Hussein, Planning and Development Department.	"	" 19th.
23. Mr. A. K. Ghosh, I. O. S., Joint Secretary, and Deputy Provincial Transport Commissioner, Government of West Bengal.	Calcutta	" 17th.

## (d) Government Officers other than those included under (a), (b) and (c).

1. Mr. W. L. Bouch, Representative of IBCON, Ltd.	Jamalpur	April 6th.
2. Mr. N. M. Iyer, I. C. S., The Port Commissioner, Calcutta.	Calcutta	" 15th.
3. The Hon'ble S. K. Sinha, Coal Commissioner	"	" 17th.
4. Mr. F. Airfield, Chief Mining Engineer	"	" 17th.
5. Mr. N. K. Misra, Coal Transport Officer, Government of India.	"	" 17th.
6. Mr. J. C. Ghosh, Director General, Industries and Supplies	New Delhi	May 15th.
7. Mr. M. P. Pai, I. C. S., Joint Secretary	"	" 15th.
8. Mr. R. P. Mathur, D. D. G. (Supplies)	"	" 15th.
9. Mr. K. B. Rao, Director of Supplies	"	" 15th.
10. Mr. G. H. Po Saw, Deputy Secretary (Finance).	"	" 15th.
11. Mr. B. B. Satho, Assistant Director, Ordnance Factories (Production).	Calcutta	" 22nd.

## APPENDIX III.—Contd.

	Place of evidence	Date of evidence
12. Mr. T. Parks, Superintendent, Ordnance Factory, Cossipore.	Calcutta	May 22nd
13. Mr. W. L. Bouch, of IBCON, Ltd.	"	" 24th
14. Mr. R. B. Satho, A. D. O. F. (P) in presence of E. I. and B. N. Railway Officers in E. I. Railway, Committee Room.	"	" 24th
15. Mr. S. M. Dhar, Deputy Agent, Tata Industries and Mr. W. H. Aues, General Manager, Telco, with other officers of the company.	Tatanagar	July 17th

## (e) Retired Railway Officers

1. Sir L. P. Misra	Calcutta	April 22nd
2. Mr. N. K. Mitra, Retired Chief Engineer	"	" 15th

## (f) Representatives of the Chambers and Associations

1. Upper India Chamber of Commerce	Kanpur	March 31st
2. Merchants Chamber of U. P.	"	" 31st
3. U. P. Chamber of Commerce	"	" 31st
4. Cawnpore Sugar Merchants Association	"	" 31st
5. Bihar Chamber of Commerce	Dinapore	April 7th
6. Orissa Chamber of Commerce	Cuttack	" 10th
7. Indian Colliery Owners Association	Calcutta	" 14th
8. Indian Mining Federation	"	" 14th
9. Indian Mining Association	"	" 14th
10. Muslim Chamber of Commerce	"	" 14th
11. Indian Chamber of Commerce	"	" 23rd
12. Bengal Chamber of Commerce	"	" 23rd
13. Marwari Chamber of Commerce	"	" 23rd

## (g) Representatives of the Railway Employees' Unions and Associations.

1. E. I. Railway Employees' Association	Jainalpur	April 5th
2. E. I. Railwaymen's Union	"	" 5th
3. B. N. Indian Labour Union	Calcutta	May 23rd
4. B. N. Railway Employees' Union	"	" 23rd
5. E. I. Railway Employees' Association	"	" 23rd
6. Press Workers Union, E. I. Railway	"	" 23rd
7. E. I. Railwaymen's Union	"	" 23rd
8. B. N. Railway Workers Association	"	" 23rd

## APPENDIX IV

## Summary of Results of Working of the Indian Government Railways

	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30
1. Mileage	31,054	31,245	31,596	31,990	33,023	33,565
(Figures in lakhs of rupees)						
2. Capital at Charge	6,07,69	6,25,74	6,51,75	6,82,37	7,08,36	7,35,22
3. Gross Traffic Receipts	1,03,18	1,01,13	1,00,58	1,05,58	1,06,06	1,04,37
4. Operating Expenses	53,17	54,24	53,82	54,08	55,10	56,32
5. Depreciation Fund	9,93	10,24	10,46	10,93	11,53	12,11
6. Payments to Worked Lines as share of earnings.	3,64	3,55	3,44	3,07	3,65	3,24
7 Net Traffic Receipts	36,44	33,10	32,86	36,90	35,78	32,70
8 Net Misc. receipts after deducting surplus profits payable to companies.	--73	--78	--84	--55	6	12
9. Net Revenue	35,71	32,32	32,02	36,35	35,84	32,82
10. Interest Charges	22,98	23,82	24,83	20,15	28,10	28,87
11. Surplus	12,73	8,50	7,19	10,20	7,74	3,95
12. Paid as Contribution* to General Revenue.	6,78	5,49	6,01	6,28	5,23	6,12
13. Transferred to Railway Reserve*	6,38	3,79	1,49	4,57	2,58	--2,06
14. Transferred to Betterment Fund	..	..	..	..	..	..
15. Ratio of Working Expenses to Gross Earnings.	65.6	67.8	67.5	65.3	66.7	69.2
16. Ratio of Net Profit on Capital at Charge.	2.09	1.36	1.10	1.48	1.10	0.84
17. % of net traffic receipt to Capital at Charge.	6.00	5.29	5.04	5.41	5.07	4.45

\*All figures exclude Burma Ry's. except those marked \* which are available only inclusive of all Railways

APPENDIX IV.—*contd.**Summary of Results of Working of the Indian Government Railways*

	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36
1. Mileage . . . . .	34,013	34,453	34,451	34,201	34,193	34,250
(Figures in lakhs of rupees).						
2. Capital at Charge . . . . .	7,47,57	7,53,84	7,53,75	7,51,56	7,51,06	7,54,11
3. Gross Traffic Receipts . . . . .	95,86	87,93	85,96	88,19	91,76	92,41
4. Operating Expenses . . . . .	51,75	49,31	49,37	49,83	50,63	51,29
5. Depreciation Fund . . . . .	12,55	12,93	13,23	13,01	13,18	12,67
6. Payments to Worked Lines as share of earnings . . . . .	2,38	2,44	2,37	2,53	2,62	2,69
7. Net Traffic Receipts . . . . .	23,18	22,98	23,93	22,82	25,33	25,76
8. Net Misc. receipts after deducting surplus profits payable to companies . . . . .	16	—	87	57	37	74
9. Net Revenue . . . . .	26,02	22,93	21,86	23,69	25,70	26,50
10. Interest Charges . . . . .	31,13	31,16	31,40	31,03	30,30	29,92
11. Surplus . . . . .	5,11	8,53	9,54	7,34	1,60	3,42
12. Paid as Contribution * to General Revenue . . . . .	5,74	Nil	Nil	Nil	Nil	Nil
13. Transferred to Railway Reserve* . . . . .	10,33	1,95	..	..	..	..
14. Transferred to Betterment Fund . . . . .	..	..	..	..	..	..
15. Ratio of Working Expenses to Gross Earnings . . . . .	73.5	74.8	76.1	74.3	73.9	72.5
16. Ratio of Net Profit on Capital at Charge . . . . .	0.68	4.13	1.27	0.98	0.61	4.45
17. % of net traffic receipt to Capital at Charge . . . . .	3.50	3.05	2.78	3.04	3.37	3.42

	1936-37	1937-38	1938-39	1939-40
1. Mileage . . . . .	34,067	33,848	33,808	33,785
(Figures in lakhs of rupees)				
2. Capital at Charge . . . . .	7,54,19	7,53,80	7,55,26	7,58,62
3. Gross Traffic Receipts . . . . .	97,32	1,00,46	99,62	1,02,73
4. Operating Expenses . . . . .	50,82	53,01	54,01	54,77
5. Depreciation Fund . . . . .	12,57	12,57	12,56	12,59
6. Payments to Worked Lines as share of earnings . . . . .	2,87	2,81	2,81	2,57
7. Net Traffic Receipts . . . . .	31,06	32,07	30,44	32,80
8. Net Misc. receipts after deducting surplus profits payable to companies . . . . .	22	5	23	64
9. Net Revenue . . . . .	30,84	32,02	30,67	33,44
10. Interest Charges . . . . .	29,39	29,20	29,30	29,11
11. Surplus . . . . .	1,45	2,76	1,37	4,33
12. Paid as Contribution* to General Revenue . . . . .	Nil	2,76	1,37	4,33
13. Transferred to Rly. Reserve* . . . . .	..	..	..	..
14. Transferred to Betterment Fund . . . . .	..	..	..	..
15. Ratio of Working Expenses to Gross Earnings . . . . .	68.4	68.1	69.4	67.6
16. Ratio of Net Profit on Capital at Charge . . . . .	0.19	0.37	0.18	0.57
17. % of net traffic receipt to Capital at Charge . . . . .	4.12	4.25	4.03	4.32

All figures exclude Burma Rlys. except those marked \* which are available only inclusive of all Rlys.

APPENDIX IV.—*contd.**Summary of Results of Working of the Indian Government Railways*

	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
1. Mileage . . . . .	33,739	33,123	33,095	33,068	33,068	33,077
(Figures in lakhs of rupees)						
2. Capital at Charge . . . . .	7,60.93	7,54.73	7,72.52	7,80.73	7,87.00	7,95.85
3. Gross Traffic Receipts . . . . .	1,17.58	1,35.17	1,55.48	1,85.43	2,16.38	2,25.74
4. Operating Expenses . . . . .	55.62	63.54	68.98	90.10	1,53.34	1,45.09
5. Depreciation Fund . . . . .	12.64	12.68	12.57	16.87	17.01	17.05
6. Payments to Worked Lines as share of earnings . . . . .	3.03	3.33	2.71	1.87	1.93	2.26
7. Net Traffic Receipts . . . . .	40.29	55.62	71.22	76.59	74.10	61.24
8. Net Misc. receipts after deducting surplus profits payable to companies . . . . .	8.5	90	1.88	2.78	3.24	4.14
9. Net Revenue . . . . .	47.14	56.52	73.10	79.37	77.34	65.38
10. Interest Charges . . . . .	28.68	28.44	28.03	28.53	27.45	27.18
11. Surplus . . . . .	18.46	28.06	45.07	50.84	49.89	38.20
12. Paid as Contribution to General Revenue . . . . .	12.16	20.17	20.13	37.64	32.00	32.00
13. Transferred to Rly. Reserve . . . . .	6.30	5.77	8.86	13.20	17.89	6.20
14. Transferred to Betterment Fund . . . . .	..	..	..	..	..	..
15. Ratio of Working Expenses to Gross Earnings . . . . .	60.5	58.1	53.3	59.0	66.0	71.8
16. Ratio of Net Profit on Capital at Charge . . . . .	2.4	3.7	5.8	6.3	6.3	4.8
17. % of net traffic receipt to Capital at Charge . . . . .	6.08	7.4	9.2	9.8	9.4	7.7

*After Partition Revised Estimate*

	1946-47	1947-48 Budget	1947-48 From 15th August 1947 to 31st March 1948	1948-49 Budget
1. Mileage . . . . .	33,176	33,192	26,205	26,205
(Figures in lakhs of rupees)				
2. Capital at Charge . . . . .	8,07.76	8,39.33	6,77.99	7,02.44
3. Gross Traffic Receipts . . . . .	2,03.35	1,93.50	1,08.00	1,90.00
4. Operating Expenses . . . . .	1,56.67	1,35.39	93.55	1,47.15
5. Depreciation Fund . . . . .	13.21	15.34	6.81	11.18
6. Payments to Worked Lines as share of earnings . . . . .	1.82	1.64	63	1.45
7. Net Traffic Receipts . . . . .	31.65	41.13	7.01	30.22
8. Net miscellaneous receipts after deducting surplus profits payable to companies . . . . .	3.39	2.95	1.40	2.15
9. Net Revenue . . . . .	35.14	44.08	8.41	32.37
10. Interest Charges . . . . .	26.52	26.58	13.61	22.53
11. Surplus . . . . .	8.52	17.50	-5.20	9.84
12. Paid as Contribution to General Revenue . . . . .	5.40	7.50	..	4.50
13. Transferred to Railway Reserve . . . . .	12	5.00	-5.20	4.56
14. Transferred to Betterment Fund . . . . .	3.00	5.00	..	84
15. Ratio of Working Expenses to Gross Earnings . . . . .	83.5	78.8	92.9	83.3
16. Ratio of Net Profit on Capital at Charge . . . . .	1.1	2.1	..	1.0
17. % of net traffic receipt to Capital at Charge . . . . .	3.9	4.9	1.0	83.3

## APPENDIX V

*Strength of Gangmen—1945-46 & 1946-47*

	B. N.		B. B. & C. I.		E. I.		G. I. P.		M. S. M.		O. T.		S. I.	
	1945-46	1946-47	1945-46	1946-47	1945-46	1946-47	1945-46	1946-47	1945-46	1946-47	1945-46	1946-47	1945-46	1946-47
Staff on Track Maintenance														
Average No. of permanent Gangmen	9,739	11,092	9,166	9,790	16,167	16,539	13,010	13,091	7,429	7,436	5,879	5,800	5,515	5,51
Per equated track mile	2.50	2.84	2.71	2.93	2.53	2.37	2.62	2.66	2.30	2.33	1.71	1.71	2.47	2.33
Average No. of permanent keymen and mates	2,527	2,567	2,499	2,524	2,438	2,497	2,698	2,715	2,023	2,045	2,053	2,055	1,308	1,385
Per equated track mile	.65	.66	.74	.76	.39	.36	.55	.55	.63	.63	.60	.60	.63	.60
Average No. of temporary gangmen engaged on Permanent Way Maintenance	1,204	1,084	633	630	5,535	5,339	12,037	12,992	2,867	3,314	380	350	1,010	1,201
Average No. of mates and Keymen engaged on Permanent Way Maintenance	116	76	23	23	175	175	722	1,061	353	340	60	57	17	48
Total staff engaged on Maintenance	13,536	14,919	12,220	12,954	24,415	24,900	23,517	29,359	12,710	13,335	8,372	8,061	7,941	8,152
Per equated track mile	3.43	3.80	3.61	3.88	3.82	3.52	5.75	6.07	3.94	4.15	2.40	2.42	3.56	3.52

\*Including section mates, etc.

*Strength of Gangmen as on 31st March 1939*

	B. N.	B. B. C. I.	E. I.	G. I. P.	M. S. M.	O. T.	S. I.
No. of permanent Gangmen	9,058	9,342	17,783	12,558	7,142	5,483	5,253
Per equated Track Mile	2.54	2.77	2.73	2.59	2.21	1.62	1.93
No. of Temporary Gangmen	3,207	..	11,060	2,724	121	171	378
Per Equated Track Mile	0.91	..	1.69	0.66	0.04	0.06	0.14
No. of Permanent and Temporary Mates and Keymen	2,005	4,810	3,171	2,713	1,883	1,782	1,679
Per Equated Track Mile	0.73	1.43	0.49	0.56	0.53	0.53	0.63

## APPENDIX VI

*Average Number of Locomotives*

Railways	1917-18										Number per cent- age 1938-39 of	
	1929-30	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47		
<b>Broad Gauge—</b>												
B. N. . . . .	698	644	648	634	626	620	634	664	727	747	720	112
B. B. & C. I. . . . .	378	353	350	350	359	358	348	345	361	385	411	115
E. I. . . . .	1,585	1,560	1,575	1,616	1,610	1,593	1,576	1,630	1,733	1,808	2,009*	129
G. I. P. (Steam) . . . . .	1,101	673	653	658	678	694	699	710	772	787	792	118
M. S. M. . . . .	297	300	302	301	295	296	302	303	337	353	352	117
S. I. . . . .	148	154	153	153	149	145	145	148	156	168	185	120
Total . . . . .	4,207	3,649	3,686	3,712	3,717	3,711	3,704	3,800	4,086	4,308	4,469	121
<b>Metre Gauge—</b>												
B. B. & C. I. . . . .	507	464	464	474	457	396	355	385	421	453	483	104
M. S. M. . . . .	354	320	320	321	317	290	277	273	276	297	299	93
O. T. . . . .	429	436	433	435	438	434	416	446	477	523	566	117
S. I. . . . .	401	387	393	399	397	338	324	325	335	355	358	93
Total . . . . .	1,691	1,567	1,584	1,609	1,579	1,448	1,372	1,429	1,509	1,633	1,706	108

\*Includes 213 locomotives on Secidrah Division. (Old B. A. Railway).

## APPENDIX VII

*Average number of Locomotives in use daily on various services*

Railways	Year	Services				Total	Spare and Stored	Grand Total Available
		Passenger and Mixed	Goods	Shunting	Departmental			
B. G.—								
B. A. . . . .	1938-39	115	46	47	15	223	19	242
	1946-47	113	62	65	20	260	46	306
B. N. . . . .	1938-39	96	220	82	27	425	78	503
	1946-47	95	324	91	38	548	82	630
B. B. & C. I. . . . .	1938-39	88	72	44	16	220	61	281
	1946-47	76	118	56	20	270	19	289
E. L. . . . .	1938-39	359	466	260	75	1,160	154	1,314
	1946-47	33	560	320	78	1,296	235	1,531
G. I. P. (Steam) . . . . .	1938-39	162	173	84	28	447	99	546
	„ (Electric) . . . . .	21	16	6	1	44	12	56
„ (Steam) . . . . .	1946-47	133	266	131	61	590	47	637
	„ (Electric) . . . . .	26	19	4	4	53	3	56
M. S. M. . . . .	1938-39	95	85	30	11	221	13	234
	1946-47	91	85	45	22	243	36	279
N. W. . . . .	1938-39	308	243	127	26	726	206	932
	1946-47	297	324	200	33	854	141	995
S. I.] . . . . .	1938-39	67	27	7	10	111	20	131
	1946-47	40	83	11	8	92	48	140
Total 1938-39 (Steam) . . . . .		1,290	1,861	681	211	3,533	650	4,183
(Electric) . . . . .		21	16	6	1	44	—12	56
1946-47 (Steam) . . . . .		1,183	1,772	919	280	4,153	654	4,807
(Electric) . . . . .		26	19	4	4	53	3	56
Increase or decrease . . . . .		—8%	+31%	+34%	+34%	+18%	—1%	+15%
M. G.—								
B. A.] . . . . .	1938-39	171	66	83	13	310	33	343
	1946-47	156	105	100	35	416	104	520
B. B. & C. I. . . . .	1938-39	163	81	45	15	294	91	385
	1946-47	107	119	56	17	299	33	337
M. S. M. ] . . . . .	1938-39	107	80	31	5	233	34	266
	1946-47	84	93	33	13	213	21	239
O. T. . . . .	1938-39	178	98	55	34	365	90	455
	1946-47	163	116	61	33	373	76	444
S. L.' . . . . .	1938-39	189	57	15	23	284	58	342
	1946-47	103	60	22	20	204	106	310
Total . . . . .		799	393	204	95	1,495	311	1,796
		617	503	272	118	1,515	345	1,860
Increase or decrease . . . . .		—23%	+28%	+33%	+24%	+2%	+11%	+4%

APPENDIX VIII

*Locomotives used and required on goods services*

Railways	Goods train miles		No. of engines employed		No. of engines that should have been employed on 1938-39 basis	Excess number employed
	1938-39	1946-47	1938-39	1946-47		
	(Millions)					
<b>B.G.—</b>						
B.A.	1,454	1,727	46	62	55	+7
B.N.	7,788	9,104	200	324	257	+67
B.B. & C.I.	2,164	3,550	72	118	118	..
E.I.	13,616	13,356	466	560	454	+106
G.I.P. (Steam)	6,824	9,522	173	266	241	+25
G.I.P. (Elec.)	634	708	16	19	18	+1
M.S.M.	2,593	2,801	85	85	92	—7
N.W.	7,722	8,449	262	324	297	+27
S.I.	770	1,642	27	33	37	—4
TOTAL	43,565	50,158	1,367	1,701	1,559	+232
<b>M.G.—</b>						
B.A.	2,324	3,893	63	125	106	+19
B.B. & C.I.	3,050	3,529	91	119	105	+14
M.S.M.	2,521	2,994	89	88	106	—18
O.T.	3,385	3,363	98	116	97	+19
S.I.	1,658	1,922	57	60	66	—6
TOTAL	12,938	15,701	398	508	480	+28

Note.—Excludes proportion of mixed.

APPENDIX IX

*Locomotives used and required on shunting and Departmental services*

Railways	Passenger shunting miles (000)		Passenger shunting miles in 1946-47 as per 1938-39 basis (000)	Shunting miles in excess or less	Goods shunting miles (000)		Goods Shunting miles 1946-47 as per 1938-39 basis (000)	Shunting miles in excess or less
	1938-39	1946-47			1938-39	1946-47		
B.G.—								
B.A. . . . .	386	524	397	+177	964	1,393	1,006	+337
B.N. . . . .	329	373	369	+4	3,091	3,818	3,533	+240
B.B. & C.I. . . . .	168	144	169	—25	951	1,225	1,295	—70
E.I. . . . .	826	711	732	—11	4,997	5,415	4,992	+723
G.I.P. (Steam) . . . . .	212	496	208	+298	2,249	3,598	3,098	+500
G.I.P. (Electric) . . . . .	173	131	251	—120	50	67	56	+11
M.S.M. . . . .	165	261	171	+90	868	961	923	+38
N.W. . . . .	1,040	1,186	1,006	+182	2,606	3,740	2,709	+1,010
S.I. . . . .	104	97	68	+22	293	464	415	+19
TOTAL . . . . .	3,403	3,923	3,301	+622	16,009	20,681	17,723	+2,958
M.G.—								
B.A. . . . .	380	564	415	+149	1,355	2,493	1,410	+1,073
B.B. & C.I. . . . .	259	278	219	+59	1,050	1,420	1,076	+314
M.S.M. . . . .	136	174	126	+48	769	876	837	+39
O.T. . . . .	256	308	215	+88	2,072	2,683	2,081	+602
S.I. . . . .	261	182	154	+28	578	700	623	+77
TOTAL . . . . .	1,292	1,501	1,129	+372	5,824	8,162	6,027	+2,135



APPENDIX IX—*contd.*

The number of shunting engines required to be employed in 1946-47, therefore works out as under:—

		Shunting miles in 1946-47	On 1938-39 basis	
		Passenger	Goods	Total
B.G.	.	3,301	17,723	21,024
M.G.	.	1,129	6,027	7,156

		Shunting miles in 1938-39		
		Passenger	Goods	Total
B.G.	.	3,403	16,009	19,412
M.G.	.	1,292	5,824	7,116

The number of shunting engines used in 1938-39 was 687 on the B.G. and 204 on the M.G. The number of shunting engines required to do the mileage of 1946-47 calculated on the basis of 1938-39 figures would be B.G.  $\frac{21024}{19412} = 744$  engines.

M.G.  $\frac{204 \times 7156}{7116} = 205$  engines.

The excess number of shunting engines employed in 1946-47 on the basis was 923—744 = 179 on the B.G. and 272—205 = 67 on the M.G.

*Departmental services.*—The basis for determining the number of engines required for departmental services would vary with the nature of work to be performed. We are justified in assuming that the departmental services were not running more efficiently than the shunting services. The number used on the B.G. increased from 212 in 1938-39 to 284 in 1946-47, and on the M.G. increased from 95 to 118. Adopting the basis of excess engines for shunting, it is estimated that 50 B.G. and 30 B.G. locomotives were in excess on departmental services.

## APPENDIX X

*Percentage of Locomotives under or awaiting Repairs in Shops and Sheds*

Railways	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
<i>Broad Gauge.</i> —										
B.N.	22.0	19.4	15.9	14.8	14.0	13.5	14.6	14.6	15.7	16.8
B.B. & C.I.	21.4	20.9	19.7	21.8	25.6	29.8	27.2	24.3	24.8	30.1
E.I.	15.6	15.7	14.6	12.3	13.4	13.0	13.6	15.4	18.0	19.7
G.I.P.	18.9	16.8	18.0	20.2	21.3	20.1	19.3	17.8	10.3	20.0
M. & S. M.	22.0	22.0	16.3	15.9	17.9	15.3	16.6	16.5	21.3	21.4
S.I.	14.9	13.8	10.8	11.8	13.5	14.1	10.0	13.3	15.7	17.0
<i>Narrow Gauge.</i> —										
B.B. & C.I.	17.0	17.2	17.5	23.0	18.5	15.2	15.2	20.7	15.5	22.3
M. & S. M.	15.8	16.7	15.9	12.0	12.8	13.8	14.0	17.4	19.6	20.8
O.T.	13.7	..	..	..	..	10.5	11.8	11.7	14.3	15.0
S.I.	11.7	12.2	11.7	12.8	10.9	8.7	6.6	8.8	11.4	12.8

## APPENDIX XI

Additional No. of Locomotives available—if target of 12% and 15% in Shops & Sheds for repairs is maintained.

Railways	1940-47 available No. of Locos. 1	No. in Shops and Sheds 2	12 per cent of Column 1 3	Additional Locos. Available 4	15 per cent of Column 1 5	Additional Locos. Available 6
<b>Broad Gauge—</b>						
B.A. . . . .	378	72	47	25	56	16
B.N. . . . .	747	117	90	27	112	5
B., B. & C.I. . . . .	385	96	48	50	58	38
E.I. . . . .	1,868	337	224	113	280	57
G.I.P. (Steam) . . . . .	787	150	94	56	118	32
G.I.P. (Electric) . . . . .	66	10	8	2	10	..
M.S.M. . . . .	353	74	42	32	53	21
N.W. . . . .	1,209	214	145	62	180	34
S.I. . . . .	168	28	20	8	25	3
<b>Total</b> . . . . .	5,961	1,098	716	375	892	206
<b>Metre Gauge—</b>						
B.A. . . . .	707	187	85	102	106	81
B., B. & C.I. . . . .	453	116	54	62	68	48
M.S.M. . . . .	297	58	36	22	45	13
O.T. . . . .	528	74	63	11	79	—5
S.I. . . . .	355	45	43	2	53	—8
<b>Total</b> . . . . .	2,340	480	281	199	351	129

## APPENDIX XII

No. and percentage of Locomotives under or awaiting repairs in Shops.

Railways	1938-39		1944-45		1945-46		1946-47	
	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
<b>Broad Gauge—</b>								
B.N. . . . .	33	5.10	23	3.47	27	3.65	26	3.50
B. B., & C.I. . . . .	28	7.68	33	9.32	37	9.67	33	8.29
E.I. . . . .	80	5.13	66	4.05	80	4.62	79	4.23
G.I.P. (Steam) . . . . .	27	3.91	45	6.40	47	6.01	50	6.44
G.I.P. (Electric) . . . . .	3	4.55	4	6.06	4	6.06	4	6.06
M.S.M. . . . .	25	8.33	25	8.16	26	7.54	32	9.22
S.I. . . . .	9	5.84	9	5.87	10	6.45	14	7.22
<b>Total</b> . . . . .	205	5.80	205	6.20	231	6.57	238	6.42
<b>Metre Gauge—</b>								
B.B., & C.I. . . . .	20	4.26	27	7.01	31	7.36	41	9.04
M.S.M. . . . .	19	5.94	12	4.41	18	6.48	21	7.09
O.T. . . . .	10	2.06	21	4.87	18	3.89	27	5.23
S.I. . . . .	14	3.66	8	2.61	13	3.83	19	4.04
<b>Total</b> . . . . .	63	3.98	68	4.97	80	5.39	108	6.35

## APPENDIX XIII

Number of Locomotives undergoing heavy repairs (P.O.H.) in shops

Railways	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
<b>Broad Gauge—</b>										
B.N., Kharipur. . . . .	224	237	240†	271†	295†	305†	300†	285†	227	216
B., B. & C.I., Dohad. . . . .	74	85	81	42	*	40	95	90	65	62
E.I. (Jamalpur) (LKO Charbagh) . . . . .	407	440	493†	422†	425†	420†	499†	467†	356	385
G.I.P., Parel . . . . .	244	227	247	293†	308†	327†	246	260	254	262
M.S.M., Perambur. . . . .	91	69	53	50	65	70	77	70	71	65
S. I. Golden Rock. . . . .	33	37	17	20	40	39	24	22	17	20
<b>Total</b> . . . . .	1,073	1,095	1,131	1,098	1,133	1,201	1,241	1,194	990	1,010
<b>Metre Gauge—</b>										
B., B. & C. I., Ajmer. . . . .	123	102	117	92	144	93	98	93	82	74
M.S.M., Hubli . . . . .	80	98	110	89	46	72	74	68	61	69
O.T., Gorakhpur . . . . .	154	133	138	99	112	166	150	131	121	109
Izatnagar. . . . .										
S.I., Golden Rock. . . . .	93	95	37	68	80	63	55	46	23	49
<b>Total</b> . . . . .	450	428	402	348	382	393	377	338	297	301

\*Dohad Workshop was being entirely used for manufacturing Military Supplies.

†See overleaf.

APPENDIX XIII—*concl'd.*

Includes the following engines of other railways overhauled in the workshops

Year	B.A. Railway Engines overhauled in B.N. , Railway Workshops	B.A. Railway Engines overhauled in E. I. Railway Workshops	B.B. & C.I. Railway Locos. overhauled in G.I.P. Rly. Workshop
1940-41 . . . . .	23	20	..
1941-42 . . . . .	43	72	39
1942-43 . . . . .	55	58	93
1943-44 . . . . .	58	53	54
1944-45 . . . . .	50	46	..
1945-46 . . . . .	28	38	..

## APPENDIX XIV

Period an engine is detained in shops for P.O.H.

	1938-39			1946-47			1947-48		
Railways	No. of P.O.Hs.	No. of days engines were in shops	Total engine days	No. of P.O. Hs.	No. of days engines were in shops	Total engine days	No. of P.O.Hs.	No. of days engines were in shops	Total engine days
<i>Broad Gauge—</i>									
B.N. . . . .	224	32	7,168	227	30	6,810	216	36	7,778
B. B., & C. I. . . . .	74	36	2,664	65	42	2,730	62	57	3,534
E.I. (Jabalpur Charbagh) . . . . .	407	38	15,466	356	53	18,868	385	54	20,790
G.I.P. . . . .	244	32	7,808	254	57	14,478	202	53	13,886
M.S.M. . . . .	91	35	3,185	71	36	2,556	65	34	2,210
S.I. . . . .	33	29	957	17	49	833	20	28	560
B.G. Total . . . . .	1,073	35	37,218	900	47	46,275	1,010	48	48,756
<i>Metre Gauge—</i>									
B., B. & C. I. . . . .	123	39	4,497	82	90	7,380	74	119	8,806
M.S.M. . . . .	80	29	2,320	61	36	2,196	69	37	2,553
O.T. Gorakhpur Izamnagar. . . . .	154	23	3,542	121	48	5,808	109	64	6,976
S. I. . . . .	93	23	2,139	23	36	828	49	23	1,127
M.G. Total . . . . .	450	28	12,498	287	56	16,212	301	65	19,462

Percentage increase in time during 1947-48 compared with 1938-39—B. G. 37%  
M. G. 132%

## APPENDIX XV

Average number of Passenger Carriages on line (in terms of four wheelers)

Railways	1938-39	1945-46	1946-47	1947-48	Percentage increase(+) or decrease(—) in 1947-48 over 1938-39
<i>Broad Gauge—</i>					
B.N. . . . .	1,470	1,449	1,437	1,443	—1.8
B., B. & C. I. . . . .	1,154	1,094	1,098	1,115	—3.4
E.I. . . . .	4,635	4,522	4,249	4,387	—5.4
G.I.P. . . . .	2,193	2,168	2,156	2,153	—1.8
M. S. M. . . . .	1,101	1,082	1,178	1,085	—1.5
S. I. . . . .	653	602	602	614	—6.0
Total . . . . .	11,206	10,917	10,620	10,797	—3.7
<i>Metre Gauge—</i>					
B., B., & C. I. . . . .	2,213	1,472	1,752	1,791	—19.1
M. S. M. . . . .	1,223	1,062	1,165	1,230	+0.6
O. T. . . . .	2,182	2,150	2,160	2,150	—1.5
S. I. . . . .	2,531	1,705	1,802	1,836	—27.5
Total . . . . .	8,149	6,389	6,869	7,007	—14.0

## APPENDIX XVI

Average number of Coaching Vehicles on line other than passenger Carriages  
(In terms of 4 wheelers)

Railways	1938-39	1945-46	1946-47	1947-48	Percentage increase (+) or decrease (—) over 1938-39
<b>Broad Gauge—</b>					
B. N.	305	352	360	363	+19
B. B. & C. I.	240	243	247	250	+4
E. I.	812	691	663	749	—8
O. I. P.	600	524	519	515	—14
M. S. M.	226	196	186	203	—10
S. I.	132	131	135	134	+2
<b>TOTAL</b>	<b>2,315</b>	<b>2,137</b>	<b>2,110</b>	<b>2,214</b>	<b>—4.4</b>
<b>Metre Gauge—</b>					
B. B. & C. I.	229	212	293	291	+27
M. S. M.	166	92	106	98	—41
O. T.	106	117	117	117	+10
S. I.	228	241	234	212	—7
<b>Total</b>	<b>729</b>	<b>662</b>	<b>750</b>	<b>718</b>	<b>—1.5</b>

## APPENDIX XVII

## Percentage of Coaching Vehicles under or awaiting Repairs in shops and sick lines

Railways	Passenger Carriages				Other Coaching Vehicles			
	1938-39	1945-46	1946-47	1947-48	1938-39	1945-46	1946-47	1947-48
<b>Broad Gauge—</b>								
B. N.	13.2	9.6	12.1	14.3	18.9	13.1	15.9	15.5
B. B. & C. I.	12.7	16.0	22.9	22.0	11.2	21.8	21.1	19.1
E. I.	8.0	7.9	8.4	12.0	3.9	8.1	8.0	11.4
O. I. P.	10.2	9.2	12.5	13.5	10.6	11.1	15.2	17.0
M. S. M.	9.5	9.7	9.1	8.8	7.3	10.6	8.0	6.4
S. I.	6.1	11.6	14.3	11.7	4.9	8.5	9.9	10.2
<b>Average</b>	<b>9.9</b>	<b>10.7</b>	<b>13.2</b>	<b>13.7</b>	<b>9.5</b>	<b>12.2</b>	<b>13.0</b>	<b>13.3</b>
<b>Metre Gauge—</b>								
B. B. & C. I.	7.2	17.7	13.0	13.9	3.6	10.6	8.5	11.4
M. S. M.	8.5	10.1	9.2	9.0	7.8	5.7	4.7	10.2
O. T.	6.0	3.3	4.2	4.7	1.5	1.7	1.7	4.4
S. I.	5.3	8.5	10.5	9.4	5.3	7.3	8.0	10.0
<b>Average</b>	<b>6.8</b>	<b>9.9</b>	<b>9.2</b>	<b>9.3</b>	<b>5.0</b>	<b>6.3</b>	<b>5.7</b>	<b>9.0</b>

## Stock of Coaching Vehicles in 1947-48

		Passenger Carriages	Other Coaching Vehicles
(1)	B. G.	10,797	2,214
	M. G.	7,007	718
<b>Passenger Carriages</b>			<b>B. G.</b> <b>M. G.</b>
(2)	Actual No. under or awaiting repairs during 1947-48		1,435 633
(3)	No. of Carriages that would be under or awaiting repairs at 6% of item (1) for B. G. and 4 % of item (1) for M. G.		648 280
	<b>Passenger Carriages—Excess</b>		<b>787 353</b>
<b>Other Coaching Vehicles</b>			
(4)	Actual No. under or awaiting repairs		303 79
(5)	No of vehicles that would be under or awaiting repairs at 4% of item (1) other coaching vehicles.		89 29
	<b>Excess</b>		<b>214 50</b>

## APPENDIX XVIII

Statement showing arrears of P.O.H. Repairs to Coaching Stock in 1947-48

(In terms of four wheelers)

Railways	Coaching		
	Total Stock Available	Arrears of P. O. H. Repairs	Percentage to Stock
<b>Broad Gauge—</b>			
B. N. . . . .	1806	350	19
B. B. & C. I. . . . .	1365	613	38
E. I. . . . .	5136	1578	31
G. I. P. . . . .	2668	618	23
M. S. M. . . . .	1288	275	21
S. I. . . . .	748	112	15
Total . . . . .	13011	3446	27
<b>Metre Gauge—</b>			
B. B. & C. I. . . . .	2082	1097	53
M. S. M. . . . .	1328	228	17
O. T. . . . .	2267	632	28
S. I. . . . .	2048	271	13
Total . . . . .	7725	2228	29

## APPENDIX XIX

Statement showing percentage increase in passenger carriages required for carrying passenger traffic

I. —TARGET—Vehicle miles per vehicle day expected of B.G. Railways.

Railways	Vehicle miles per vehicle day (in terms of 4 wheelers) increased by Percentages referred to in Col. 1	Coaching Stock average No. on line (in terms of 4 wheelers)	Vehicle miles (Col. 2 x 3)
1	2	3	4
<b>Broad Gauge—</b>			
B. N. . . . . 1938-39 increased by 33 per cent	195	1,797	368,385
B. B. & C. I. . . . . 1946-47 increased by 10 per cent	171	1,345	229,995
E. I. . . . . 1938-39 increased by 33 per cent	189	4,912	928,363
G. I. P. . . . . 1946-47	221	2,675	591,175
M. S. M. . . . . 1946-47 increased by 10 per cent	172	1,264	217,408
S. I. . . . . 1938-39 increased by 33 per cent	168	737	123,816
Total . . . . .		12,730	2,459,147

Weighted average =  $2459147 \div 12730 = 192$ 

Vehicle miles per vehicle day.

II. Percentage of passenger miles per day to seat miles per day on India Government Railways excluding B.A. and N.W. Railways during 1941-42 and 1942-43 was as follows:—

	Broad Gauge	Metre Gauge
1941-42	38	52
1942-43	45	58

## III. Occupation of passenger Carriages

(a) Broad Gauge (excluding B. A., N. W. and N. S. Railways).

	1946-47	If the seating capacity is increased by 25%
Passenger miles (000) . . . . .	19,655,516	19,655,516
Passenger miles per day (in units) . . . . .	53,850,730	53,850,730
Seating capacity of carriages on 31st March . . . . .	471,607	589,509
Passenger miles per day per seat owned . . . . .	114	91
Vehicle miles per vehicle day of vehicles on line . . . . .	192	192
Estimated over-all occupation of carriages (percentage) . . . . .	60	48

(b) Metre Gauge (B. B. &amp; C. I., M. S. M., O. T. and S. I. only).

		If the seating capacity is increased by 50%
Passenger miles (000) . . . . .	7,938,111	7,938,111
Passenger miles per day (in units) . . . . .	21,748,249	21,748,249
Seating capacity of carriages on 31st March . . . . .	219,641	339,463
Passenger miles per day per seat owned . . . . .	99	65
Vehicle miles per vehicle day of vehicles on line . . . . .	130	130
Estimated over-all occupation of carriages (Percentage) . . . . .	76	50

## APPENDIX XX

Number of wagons repaired in terms of 4 wheelers

Out-turn from shops

Railways	1938-39	1947-48	Percentage increase or decrease over 1938-39
<b>Broad Gauge—</b>			
B. N.	11,182	9,229	—17
B. B. & C. I.	3,792	3,287	—13
E. I.	24,745	13,562	—445
G. I. P.	6,581	7,479	+14
M. & S. M.	3,156	3,771	+19
S. I.	751	1,069	+42
Total	50,207	38,397	—24
<b>Metre Gauge—</b>			
B. B. & C. I.	2,605	2,271	—13
M. & S. M.	2,483	1,873	—25
O. T.	3,872	3,503	—10
S. I.	2,245	2,156	—4
Total	11,205	9,803	—13

## APPENDIX XXI

Capacity of Workshops for wagon repairs and output (in terms of 4 wheelers)

Railways	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	Capacity based the best performance for the last 10 years
<b>Broad Gauge—</b>											
B. N.	11,182	11,917	12,700	11,069		11,627	10,967	10,855	11,823	9,229	12,700
B. B. & C. I.	3,792	3,509	3,813	4,026		3,556	3,710	3,697	3,379	3,287	4,026
E. I.	24,745	26,540	25,312	24,616	Returns	26,274	26,917	18,327	11,845	13,562	26,917
G. I. P.	6,581	7,113	7,209	7,012	not	7,524	6,980	7,423	6,620	7,479	7,524
M. S. M.	3,156	3,483	3,231	3,214	avail-	3,035	2,895	3,616	3,005	3,771	3,771
S. I.	751	415	1,066	666	able	919	798	538	452	1,069	1,066
Total	50,207	52,977	53,361	50,603		52,935	52,217	44,456	36,624	38,397	56,034
<b>Metre Gauge—</b>											
B. B. & C. I.	2,605	2,480	3,544	2,810		2,833	2,943	2,239	2,262	2,271	3,544
M. S. M.	2,483	2,341	2,427	2,916		2,138	1,885	2,157	2,144	1,873	2,916
O. T.	3,872	4,056	3,858	3,843		4,029	4,379	5,292	4,298	3,503	5,292
S. I.	2,245	3,292	2,091	1,455		2,197	1,346	1,764	1,986	2,156	3,292
Total	11,205	12,169	11,920	11,030		11,197	10,553	11,452	10,690	9,803	15,044
Grand Total											48,200 71,078 47%

## APPENDIX XXII

Percentage of wagons under or awaiting repairs in Shed and Shops and Sick lines

(Percentage to stock on line).

Railways	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
<b>Broad Gauge—</b>										
B. N.	5.96	5.94	5.90	4.63	5.45	4.33	4.40	4.70	5.70	6.24
B. B. & C. I.	6.27	5.77	7.15	6.56	6.52	7.86	8.86	10.50	9.15	9.00
E. I.	5.83	5.41	4.86	4.26	4.13	3.73	3.63	4.20	6.41	9.24
G. I. P.	4.15	4.40	3.56	3.00	3.63	3.72	3.60	3.90	4.60	4.94
M. S. M.	3.60	6.69	4.96	3.85	2.75	3.19	5.10	6.80	8.60	6.38
S. I.	3.72	3.14	6.48	5.19	3.49	2.76	2.63	3.10	3.25	4.58
Average	4.92	5.23	5.49	4.58	4.33	4.27	4.67	5.53	6.29	6.73
<b>Metre Gauge—</b>										
B. B. & C. I.	3.58	3.92	4.25	6.03	5.69	5.53	7.53	7.20	8.45	9.61
M. S. M.	2.58	2.40	1.85	2.73	1.97	2.55	3.98	5.10	5.63	6.53
O. T.	3.14	2.06	2.03	1.79	1.23	1.97	3.94	3.40	2.04	1.92
S. I.	2.84	2.26	1.87	2.47	2.74	1.72	1.78	3.00	4.84	6.64
Average	2.90	2.66	2.50	3.26	2.91	2.94	4.31	4.68	5.24	6.18

APPENDIX XXII—*concl.*

Number of wagons available in 1947-48 on the basis of the lowest percentage of Wagons under or awaiting repairs during the last 10 years

Railway.	Lowest percentage individual railways	Stock of wagons (4 wheelers) 1947-48	Addl. No. of wagons (4 wheelers) available in 1947-1948 if lowest percentage (of col. 1) maintained
	1	2	3
<i>Broad Gauge—</i>			
B. N. . . . .	4.33	21,932	419
B. B. & C. I. . . . .	5.77	10,831	350
E. I. . . . .	3.63	61,001	3,422
G. I. P. . . . .	3.00	25,822	501
M. & S. M. . . . .	2.75	7,346	267
S. I. . . . .	2.63	2,810	55
Total . . . . .	..	1,29,742	5,014
<i>Metre Gauge—</i>			
B. B. & C. I. . . . .	3.58	8,778	529
M. & S. M. . . . .	1.85	6,719	314
O. T. . . . .	1.23	13,984	96
S. I. . . . .	1.72	6,421	316
Total . . . . .	..	35,897	1,255

## APPENDIX XXIII

Number of days each wagon is detained in shops for repairs

Railways	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
<i>Broad Gauge—</i>										
B. N. . . . .	7	6	6	6	6	5	6	6	6	6
B. B. & C. I. . . . .	12	13	13	12	13	15	15	13	15	16
E. I. . . . .	6	6	6	5	5	5	5	7	9	8
G. I. P. . . . .	8	7	8	8	7	7	7	7	9	8
M. S. M. . . . .	7	7	5	5	5	5	6	7	9	8
S. I. . . . .	7	8	6	7	7	7	8	11	15	9
<i>Metre Gauge—</i>										
B. B. & C. I. . . . .	13	15	14	16	15	14	12	21	15	13
M. S. M. . . . .	4	5	3	4	4	4	6	6	5	7
O. T. . . . .	7	9	7	5	7	8	9	8	8	8
S. I. . . . .	6	6	6	9	8	6	8	11	13	8







APPENDIX XXV

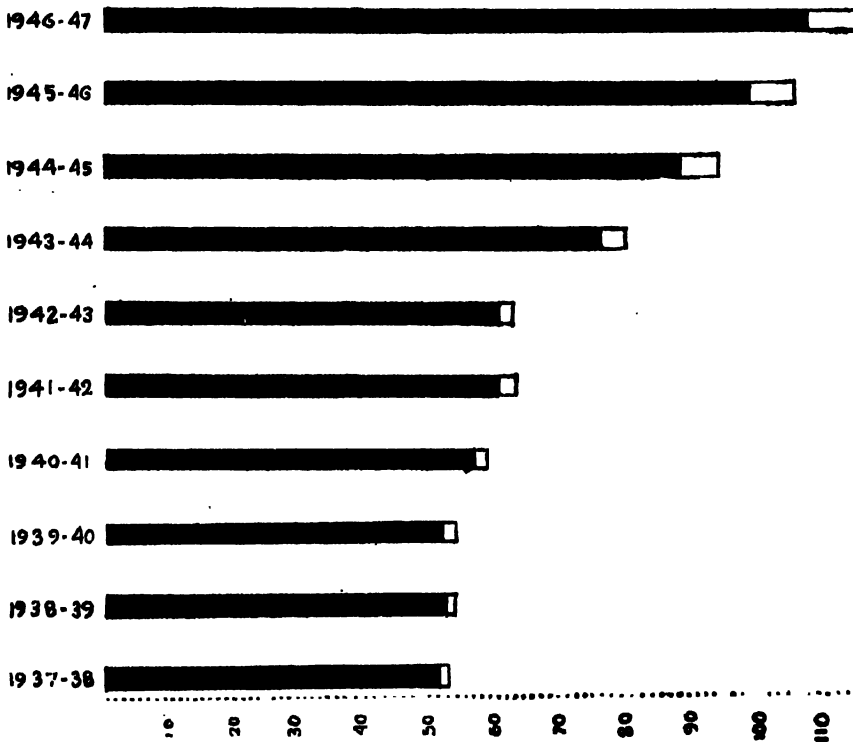
NUMBER OF PASSENGERS CARRIED ON  
INDIAN RAILWAYS

■ 3RD CLASS

□ UPPER CLASS

GRAPH A

ISM DIV = 1 CRORE



APPENDIX XXV (contd.)

NUMBER OF PASSENGER MILES ON  
INDIAN RAILWAYS

1 SM DIV = 500 MILLIONS

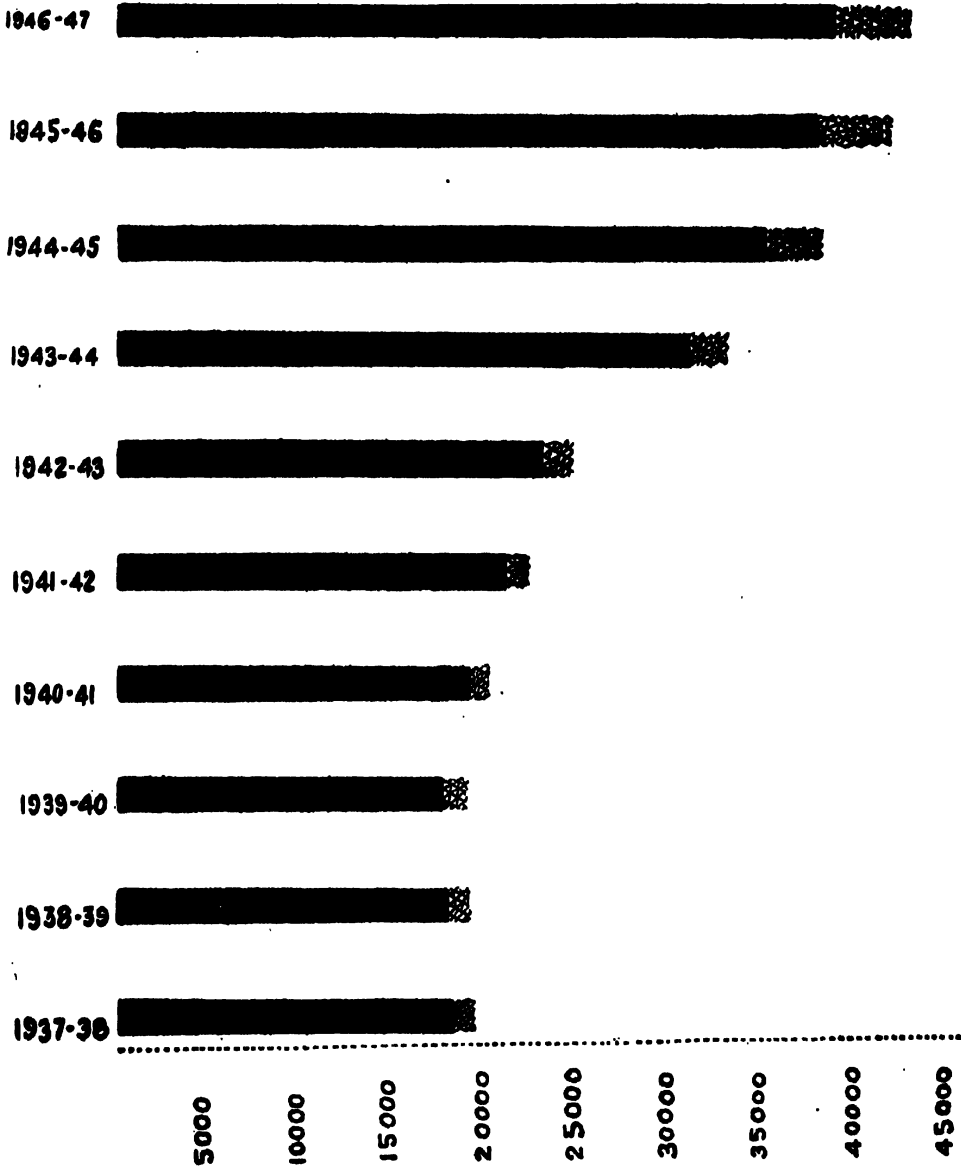


UPPER CLASSES

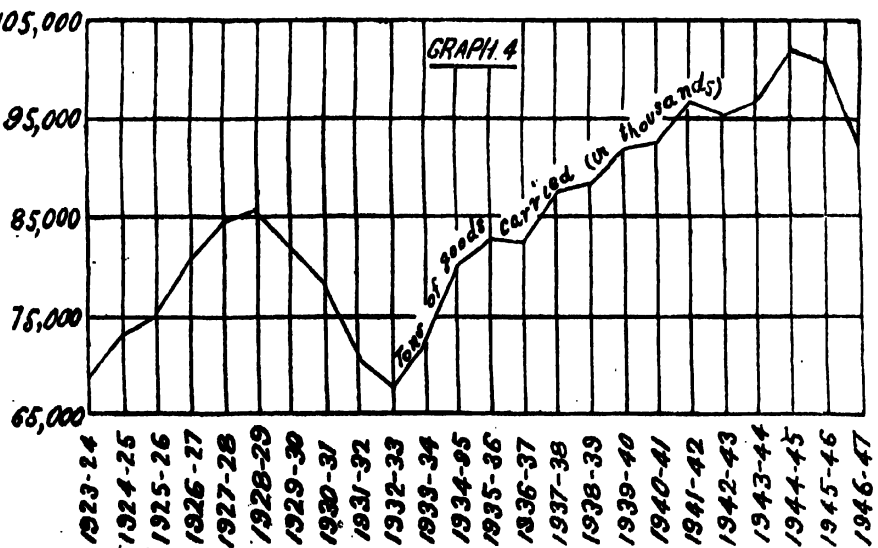
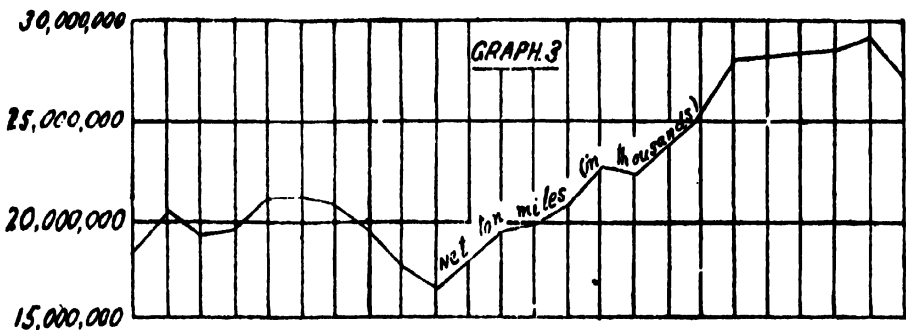
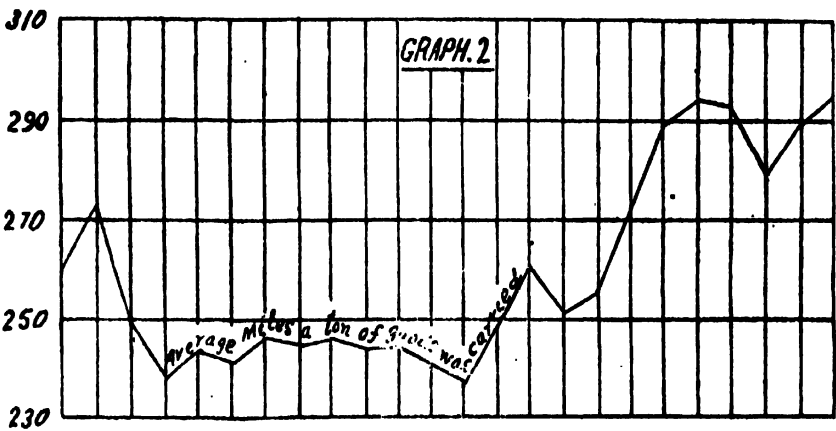
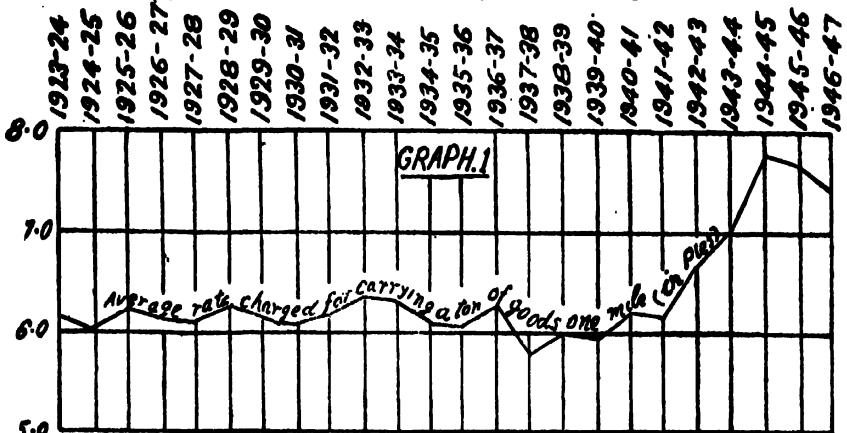


3RD CLASS

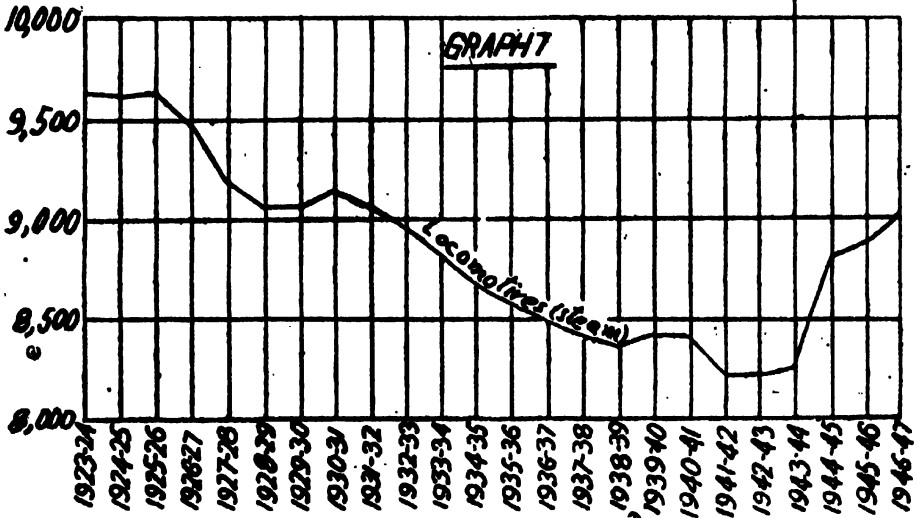
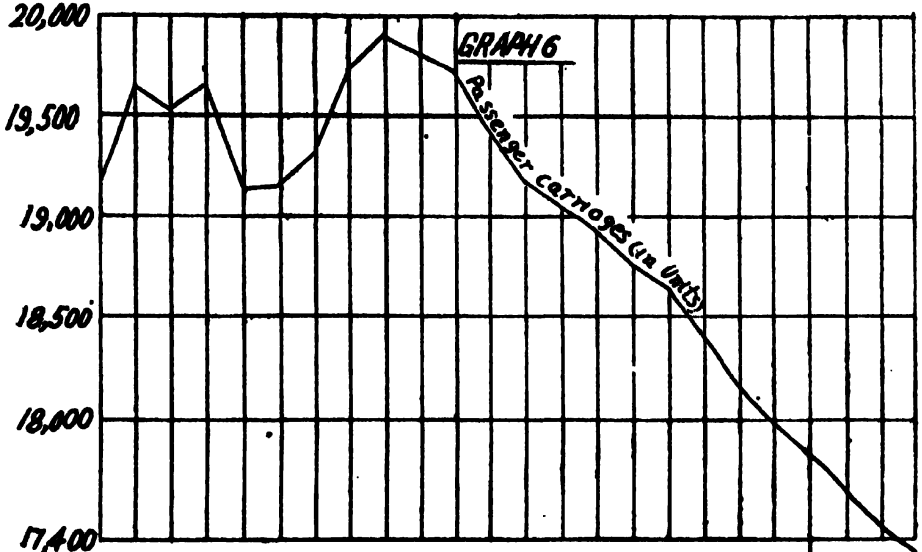
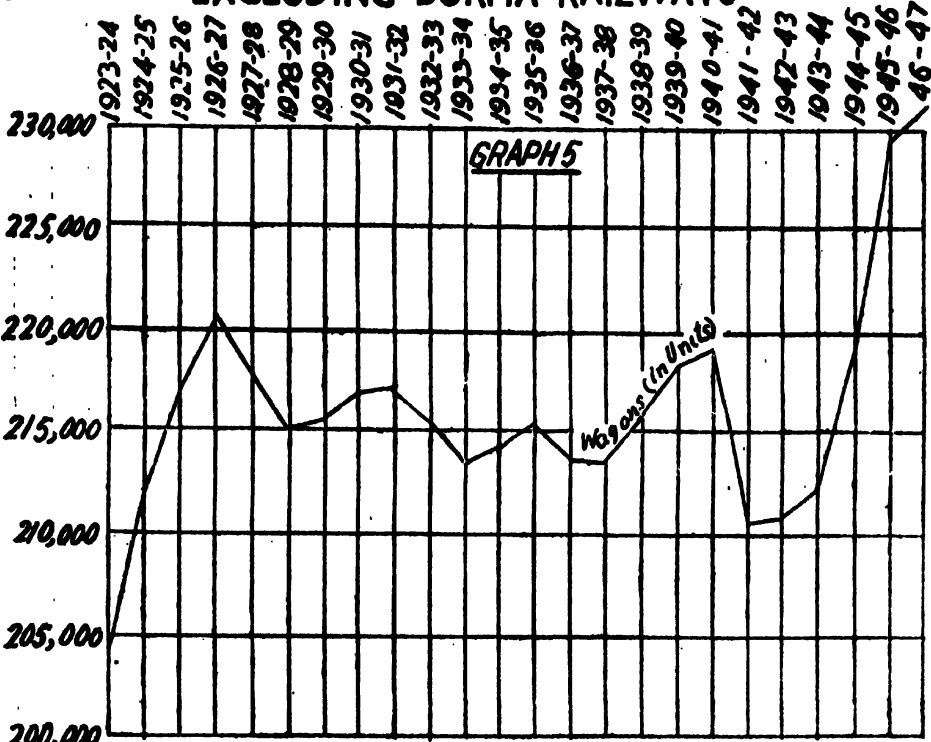
GRAPH A



# ALL INDIAN RAILWAYS EXCLUDING BURMA RAILWAYS

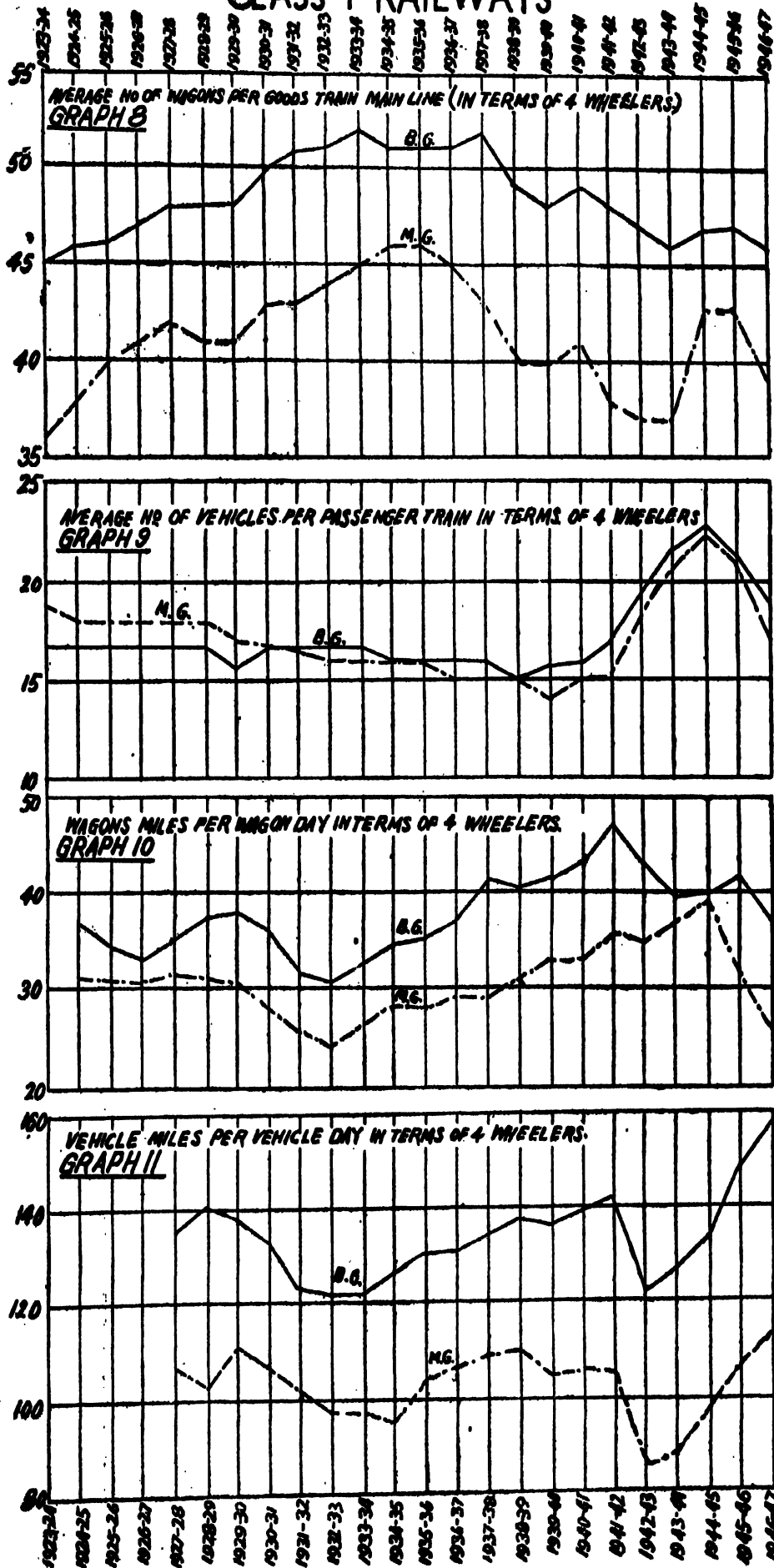


# ROLLING STOCK IN SERVICE ON INDIAN RAILWAYS EXCLUDING BURMA RAILWAYS



## APPENDIX XXV (CONTD)

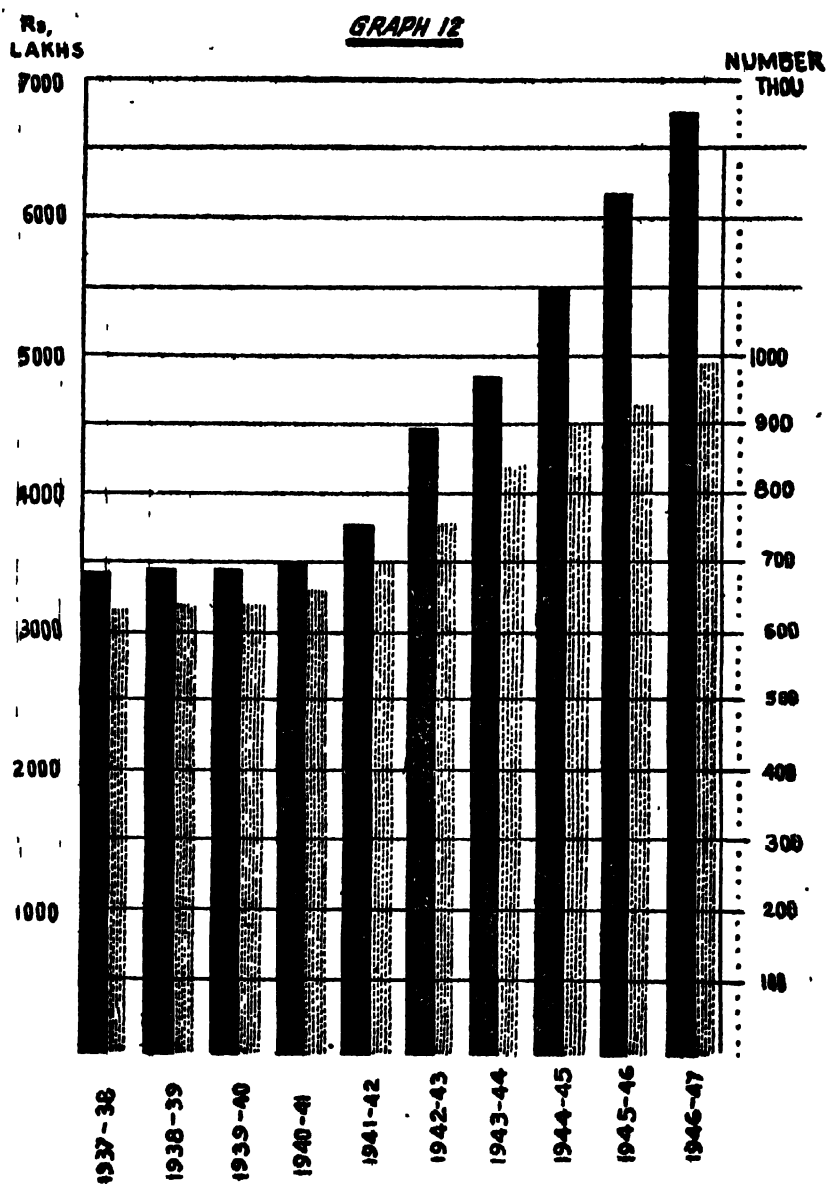
## CLASS I RAILWAYS



APPENDIX XXV (CONCLD)TOTAL NUMBER AND COST OF STAFF  
ON INDIAN GOVERNMENT RAILWAYS

■ COST OF STAFF

▨ NO OF STAFF



## APPENDIX XXVI

## Distribution of Underframes

Serial No.	Year of Order	Type and Nos. on Order	Date of Delivery	Distrib.
<b>BROAD GAUGE.—</b>				
1	1945-46	222 BG Bogie Coaching* All delivered U/Fs ex Australia. (68 NW).	(i) Indian Govt. Rys. . (ii) Non-Govt. Rys. . (iii) Pakistan's share .	174 0(N8) 42
2	1946-47	244 BG Bogie Coaching U/Fs (100 NW—14 BA)	Not known (these are being utilised for the 250 coach body shells. Pakistan's share from this allotment is being met from out of 500 on TELCO.)	(i) Indian Govt. Rys. . 180 (ii) Non-Govt. Rys. . Nil (iii) Pakistan's share . 70
3	1947-48	500 BG Bogie Coaching. (Nil—but 70 will be utilised for the 70 coaches offered to Pakistan).	Deliveries expected to commence in August 1948, at the rate of 20 p.m. rising by 5 coaching a peak figure of 48 in Feb. 1949. (105 of these are for steel shells.)	(i) Indian Govt. Rys. . 400 (ii) Non-Govt. Rys. . 30(N8) (iii) Pakistan's share . 70 app.
4	1947-48	114 BG 4-wh. Coaching. (3 BA).	Nov/Dec. 1948	(i) Indian Govt. Rys. . 109+1 (ii) Non-Govt. Rys. . 2(N8) (iii) Pakistan's share . 2
<b>M TRE GAUGE—</b>				
5	1945-46	100 MG Bogie Coaching U/Fs ex Australia. (14 BA).	34 U/Fs delivered to date. The delivery date of the remaining not known.	(i) Indian Govt. Rys. . 80+7 (ii) Non-Govt. Rys. . 6 (iii) Pakistan's share . 7
6	1946-47	296 MG Bogie Coaching U/Fs (90 BA).	240 from Aug. 1948 at the rate of 10 each for Aug. and Sept., and 25 Oct. onwards. 56 in Sept., 1948.	(i) Indian Govt. Rys. . 24+14 (ii) Non-Govt. Rys. . 118 (iii) Pakistan's share . 48
7	1947-48	67 MG Bogie Coaching U/Fs (Nil).	Not known	All for S. . Railway.
8	1947-48	100 MG 4-wh. Coaching U/Fs. (6 BA).	Nov. 1948—Jan. 1949	(i) Indian Govt. Rys. . 3+3 (ii) Non-Govt. Rys. . 91 (iii) Pakistan's share . 3

## APPENDIX—XXVII

## RAILWAY STORES ORGANISATION\*

The Stores Organisation on the Indian Government Railways has to be designed with considerable care as its efficiency would depend the economical and efficient working of railways. An inefficient Stores Organisation is a constant source of danger to the maintenance of efficient transportation. Enormous losses can be caused to the Railways by defects in that organisation, while considerable gains can be secured by maintaining that organisation at a high pitch of efficiency. The Railways buy every year huge quantities of stores, both for their capital equipment and for their day-to-day working. The arrangements which were found adequate prior to the war, proved unequal during the war. Towards the closing stages of the war there might easily have been a break-down but for the various controls and other special measures introduced by Government and the considerable expansion of the Stores Organisation of the railways, particularly at headquarters. In planning the future Stores Organisation, it is essential that provision should be made for meeting emergencies of the kind which arose during the last war.

2. The Railway Stores purchase organisation deals, among other things, with certain important items of stores which have special features and may be excluded from our review. These special items are:—

- (i) Rolling Stock,
- (ii) Sleepers,
- (iii) Coal, and
- (iv) Foodgrains and grocery stores.

\*Submitted to Government on the 18th October 1947.



Excluding these Special items, the turnover from year to year commencing from 1937-38 was as shown in the statement below:—

In lakhs of Rupees

Period	Opening Balance	Purchases	Issues	Closing Balances
1937-38	8,87	9,12	8,75	9,24
1938-39	9,24	9,71	8,87	10,08
1939-40	10,08	9,86	8,70	11,24
1940-41	11,24	10,41	9,61	12,49
1941-42	12,49	9,57	9,16	12,90
1942-43	12,90	12,27	9,89	15,28
1943-44	15,28	16,98	10,95	21,31
1944-45	21,31	22,89	20,32	23,88
1945-46	23,88	26,34	23,26	26,96

3. It will be noticed from the figures given above that upto 1942-43 there is hardly any change in the issues. Between 1938-39 and 1944-45 there is a steep rise in issues, for which price was, no doubt, one of the main factors. The closing balances show a steady increase. Increase in their case is, however, most marked between the year 1942-43 and 1943-44, i.e., in the year before the steep rise in issues takes place. The sharp increase in the closing balance is, in the opinion of the Committee, partly due to increase in prices and partly to increase in quantities that were accumulated to meet the increased demands as well as to ensure against uncertainty in supply. Even at pre-war price levels, the purchase branch played an important part in the Stores Organisation and its important at the current price levels cannot be over-estimated. Further reference to this is made in paragraph 22 below.

4. Purchases of stores are made by three different agencies, namely—

- by the Industry and Supply Department,
- by the Railway Board, and
- by individual railways.

5. The Industry and Supply Department in its present form came into existence during the war absorbing the Indian Stores Department which used to handle the purchase of railway stores. The items of stores which should be purchased through the agency of the Industry and Supply Department have been specified in the Railway Stores Code, and during the war, additions have been made to the list of these items as and when occasions arose. Even in respect of I.S.D. items, individual railways had powers to make purchases not exceeding Rs. 100 at a time and upto Rs. 250 in emergencies, which was raised to Rs. 1,000 after the outbreak of the war. In view of the recommendations we have made in paragraph 13, we do not think there is any necessity to modify the existing rule as amended.

6. Practically every railway has complained of difficulties which they ascribed to the fact that the purchases were entrusted to the Industry and Supply Department. There have been complaints of inferior quality, high prices, and most serious of all, enormous delays. Some of the Stores Officers told us that they could purchase some of the items cheaper and quicker than the Industry and Supply Department. One of them also stated that direct contacts with the suppliers by the railways produced more satisfactory results in obtaining supplies promptly, particularly in respect of items which were in short supply.

7. It is to be admitted that the conditions during the last several years have been abnormal. It is very difficult to say whether individual railways could have managed their purchases better, if they had been left to themselves. The officers of the Industry and Supply Department admitted that their organisation had not been as successful in meeting the demands of the railways as it should have been. They however claimed that they had to contend against enormous difficulties and that, as conditions improve, they would be in a position to give satisfaction in regard to the supplies that may be entrusted to them.

8. We cannot ignore the argument that whatever the difficulties in the way of getting supplies may be, the essential needs of the railways must be complied with in time. Failure to do this not only affects the repairs and maintenance of stock and equipment seriously, but often also results in a tendency to accumulate balances which could otherwise be maintained at a reasonable level. Ineffective or delayed repairs and maintenance of stock and equipment inevitably result in loss of earnings to railways. If a Controller of Stores feels that he cannot be sure of the supply of a particular item when it is required, he naturally develops a tendency to stock more of that item. As conditions stand at present, it is impossible for any one to state definitely whether the individual railways will be able to get the goods more speedily or more economically than the Industry and Supply Department, but wherever the defects, if any, may lie, the party that suffers is the railway. We are, therefore, prepared to view with a certain amount of sympathy the attitude taken up generally by the railways, viz., that they could get more satisfaction by being left to make their own purchases unfettered by the Industry and Supply Department.

9. There is one important point which the officers of the Industry and Supply Department whom we interviewed made out in the course of their evidence, and that is that for the industrial development of the country, it is necessary that the supplies of all imported items should be in their hands. While we do not question the need for keeping a watch

on the country's industrial development, we cannot altogether ignore the claims of the railways to make their purchases in a manner suited to their requirements. The Industry and Supply Department have been making these purchases for the last several years and we are not sure that their purchase policy has so far had any decisive influence in building up indigenous industries on any large scale. We appreciate that during the war there was less scope for the development of industries but we cannot overlook the fact that they had under the Defence of India Rules powers to control the allocation of capacity to firms. With the lapse of Defence of India Rules this power has been lost to them. We do not, therefore, consider that this is a very strong argument for concentrating purchases of all imported stores in the Industry and Supply Department. We, however, feel that which ever agency may be entrusted with the making of purchases, periodic statements of such imported purchases can be sent to the Industry and Supply Department. They can then take whatever action is necessary for safeguarding the interests of the country as a whole.

10. Reverting to the comparative merits of direct purchase by Railways and purchase through the Industry and Supply Department, we have attempted to determine which would be more advantageous from all points of view. There is no doubt that purchases through the Industry and Supply Department will enable indents being bulked with the result that Government's bargaining power is increased, so that purchases can be made cheaper. A central purchase organisation has also the advantage of enabling educational orders being placed on firms with a view to foster indigenous industries. The inspection of the materials supplied can be simplified considerably under a centralised system. If each individual railway maintains an inspection organisation for its own purchases, the results would not be so satisfactory. An other consideration in favour of a centralised purchase organisation is that 'purchase' must be treated as a specialised task for which the officers of the Industry and Supply Department should be fitted by their training, whereas a railway stores officer is not a professional purchaser. The Industry and Supply Department also have the advantage of the all India survey of workshop and mill capacity made by the Stores and Munition Production Directorates during the war.

11. As against the considerations set forth in the previous paragraph, we cannot get away from the fact that at least during the last few years the railways have not been getting the stores as speedily or in as good a quantity as would satisfy their needs. The prices at which the materials have been obtained do not also seem to have been generally cheaper merely as a result of centralised purchase. The Company-managed railways had their own dealings with small producers in their areas. This was satisfactory from all points of view and incidentally, also encouraged small industries. Purchase by centralised organisation enables only large firms to have dealings with them.

12. We have given considerable thought to these matters and we recommend that, as an experimental measure, two selected railways, one at Calcutta and the other at Bombay, may be entrusted with full purchasing powers except in regard to items which are at present purchased by the Railway Board. Subject to the general conditions governing all stores purchases, they should have unrestricted powers in regard to the source from which purchases are made, whether the item in question is indigenous or imported. Where higher sanction to the expenditure is necessary, such sanction will be obtained as at present. After the sanction has been accorded, the purchase will be left entirely to these two railway administrations. This experiment may be tried for such length of time as will enable the railways and the Railway Board to form definite conclusions regarding the comparative merits of purchases by the railways direct and by the Industry and Supply Department. We would suggest a period of about 4 years as suitable for the purpose. The Board should, however, have the power to shorten or lengthen the period in the light of experience gained during the experiment. It is hardly necessary to stress the importance of a careful watch on the progress of the experiment both on the railways concerned and in the Railway Board.

13. Our discussions with the Controller of Railway Supplies, the Director of Railway Stores and the different Railway Administrations convinced us that the list of items required to be purchased through the Industry and Supply Department is unwieldy. The Department is unable to cope with all their demands, thereby making it necessary for a chasing organisation to be constantly at their service. The Controller of Railway Supplies informed us that the number of items for which indents are outstanding is 18,000. Railway Administrations have assured us that odd items of stores available from smaller dealers can be handled more expeditiously by themselves. We generally agree with their contention and recommend that the list of I. & S. items should be examined with a view to prepare a list of items available in local markets in respect of which the railways may be given the power of purchase.

14. The Industry and Supply Department is charging railways one per cent. for making purchases and one per cent. for inspection. These percentages were fixed several years prior to the war. With the very large increase in prices, the application of the same percentages results in large payments by the railways to the Industry and Supply Department compared to the quantity of the materials purchased through that Department. We would suggest that negotiations may be made with that Department for getting the percentage charges reduced, either *en bloc* or by graduated scales.

15. Until the result of the experiment recommended by us in paragraph 12 is known we would not suggest, subject to what is stated above in paragraph 13, any important change in the list of items which, under the existing orders, have to be purchased through the Industry and Supply Department. The two railways experimentally entrusted with the powers of making purchases may prefer to make purchases of certain items through the

Industry and Supply Department. They should be allowed to do so, provided they submit a list of such items at the beginning of the experiment.

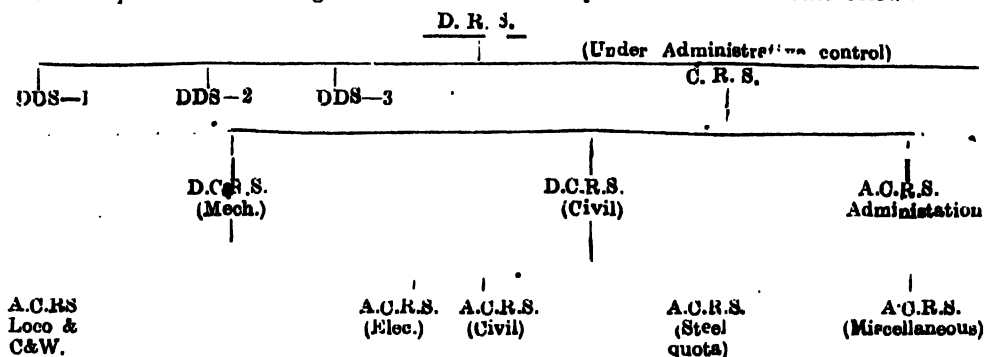
16. Paragraph 704 of the State Railway Code for the Stores Department prescribes the articles for which the Railway Board have reserved to themselves the right to call for tenders and let contracts for the supply. These items are—

- (i) Locomotive and Carriage and Wagon, Rolling stock;
- (ii) Permanent way materials—rails, sleepers;
- (iii) Coal; and
- (iv) Pig Iron.

For effecting these purchases and for dealing with the Industry and Supply Department in respect of purchases made through them, the Railway Board have at present an elaborate Stores Organisation. Prior to the last war the Stores work in the Railway Board's Office was carried out in the Mechanical Engineering Directorate, which was comprised of one Director, Mechanical Engineering and one Deputy Director. The volume of work dealt with by them, we were told, was 60 per cent. under Stores and 40 per cent. under Mechanical.

17. In consequence of the conditions brought about by the war, the post of Director of Railway Stores was created in 1944. The Director was originally assisted by two Deputy Directors, but later a third Deputy Director's post was also created for dealing with coal supply work. The post of the Controller of Imported Railway Stores was created during the war. In 1946, he, along with his organisation, was transferred from Calcutta to Delhi and subsequently developed into the organisation of the Controller of Railway Supplies under the Administrative control of the Railway Board. The Controller of Railway Supplies has two Deputy Controllers and six Assistant Controllers under him.

18. The present Stores Organisation in the Railway Board are as shown below:—



19. The Director of Railway Stores and his three Deputies deal mainly with matters of policy in respect of stock, storage, procurement, standardisation, staff, procedure, stores balances, etc., and issue all administrative and certain executive orders to the various railway administrations. On the other hand, the Controller of Railway Supplies and his assistants receive, co-ordinate, standardise, bulk and forward railways' indents to the Industry and Supply Department for such stores as are obtained through them. They also watch the progress of all procurement processes and purchase arrangements through the Industry and Supply Organisation, as well as endeavour to ensure prompt and correct supply.

20. During the war, the difficulty of procurement of stores was so great the railways were not able to obtain their materials through the Industry and Supply Department expeditiously. It was, therefore, necessary to set up an organisation, whose primary duties were to chase the progress of the indents through the Industry and Supply Department. We are satisfied that this organisation has succeeded materially in assisting the Industry and Supply Department in the procurement of railway stores, though in normal conditions there should be no need for an organisation of this kind. In view, however, of the persistence of unsatisfactory supply position of materials on the railways, we consider that the time has not yet arrived for suspension of the organisation. We are convinced, however, that the handling of all demands for stores placed on them should be the sole responsibility for the Industry and Supply Department and that they should be able to handle efficiently all such demands without the need of a chasing organisation. We consider that the need for such an organisation should ultimately cease when the Industry and Supply Department is able to handle its work efficiently. Meanwhile, the organisation of the Controller of Railway Supplies should gradually dwindle with increasing effectiveness of the Industry and Supply Department. We consider that there is room for economies even now in the Controller of Railway Supplies organisation. We, therefore, recommend that an investigation should be undertaken immediately and later every six months with a view to see what economies can be effected by consolidation of duties or any other method.

21. Railway Board in their Office Order No. 51 of 1947 have abolished the Stores Directorate and placed the work in the Board's office connected with stores in charge of a Joint Director attached to the Mechanical Engineering Directorate. In view of the unwieldy expansion in the Stores organisation in the Board, we appreciate the desire of the Board to effect every possible economy. As, however, the Stores Organisation is a part of the Railway Board itself, which is the authority for administration of all the Indian Railways, we feel that the future set up of the Stores Organisation should be

determined after the future constitution of Central Authority itself has been decided. The Committee are now engaged in considering what should be the constitution, nature and functions of such Central Authority. We, therefore, must at this stage refrain from piece meal comment on one department of the Railway Board and leave it to the Board itself to take such departmental decisions as they may feel necessary.

22. Even under existing conditions the railways themselves are making direct purchases of quite considerable value. They have each a Controller of Stores in charge of their stores organisation, who is assisted by one or more Deputies and Assistants, the number depending on the size of the railway. The Stores Branch of the railways is responsible not only for making direct purchases but also for the custody of the entire purchases of the railway stores (except those which are delivered direct to consumers), and for the issue of the stores as and when required to various indentors.

The following statement shows the cost of the Stores organisation on the Indian Government Railways (excluding the North Western and Bengal Assam Railways).

1938-39	...	Rs.	42,32,334
1939-40	...	Rs.	42,24,457
1940-41	...	Rs.	43,32,696
1941-42	...	Rs.	53,46,393
1942-43	...	Rs.	60,65,796
1943-44	...	Rs.	57,24,079
1944-45	...	Rs.	61,80,420
1945-46	...	Rs.	69,75,000

N. B.—These figures do not include Dearness Allowance and loss on grain shops.

23. It will be seen from the statement that the cost, which was Rs. 42 lacs in 1938-39, has increased to about Rs. 70 lakhs in 1945-46 and the budget figure for 1947-48 is over Rs. 81 lakhs. As against this increase of over 60 per cent. in 1945-46 the increase in the number of transactions was approximately 15 per cent. (excluding B. N. and G. I. P. Railways) the details being as given below:—

Railways	1938--39			1945--46			% increase or decrease in total.
	No. of transactions			No. of transactions			
	Receipts	Issues	Total	Receipts	Issues	Total	
B.N.	Not available			Not available.			
B.,R.& C.I.	45710	506127	551837	50743	389570	440313	—20·2
E.I.	Not available		622300	Not available		685600	10·2
G.I.P.	Not available			69688	721069	790757	—
M. & S. M.	28353	266701	295054	60110	435541	495651	68·0
O. T.	Not available		78820	Not available		125011	58·6
S.I.	16693	111775	128468	25256	156966	182216	41·8

Notes.—The figures do not include transactions in a few of the minor depots, the same not being available. The figures for the two years, however, are comparable.

24. We consider that there has been an unduly heavy increase in the cost of the Stores organisation especially when we remember that these figures exclude dearness allowance and loss on grainshops. The increase in expenditure is almost entirely due to increase in the number of staff. The increase in the depot staff alone is 67 per cent. and there are corresponding increases in the ancillary offices. As already indicated, the increase in transactions is approximately 15 per cent. and this cannot justify such increase in the number of staff. We recommend that the Railway Board should require individual railways to tighten their stores organisation to make the increase in cost commensurate with the increase in work. We further recommend that the Board should aim at a target of Rs. 50 lakhs as against the budget figures of 81 lakhs as the cost for Stores Organisation on Railways. This means 25 per cent. increase over the 1938-39 figures on the basis of the scales in force before the implementation of the Pay Commission's Report and should cover any increase in work due to increased transactions. No doubt, the Board will make necessary adjustments when the Pay Commission's Report is enforced.

25. One feature that has struck us forcibly is that there has been an immediate increase in the cost of the Stores Organisation whenever a Railway was transferred from Company to State management. Thus, we find that when the Oudh Tirhut Railway was transferred from a Company to Government management, the cost of the Stores Organisation which stood round about one lakh a year before the transfer has been increasing steadily and at present stands at over 6 lakhs, which is the budgetted figure for 1947-48. We are aware of the fact that in the case of this railway, the Railway Board considered it necessary to undertake an examination of the Stores procedure followed during the Company days. The Officer who conducted that examination made recommendations which resulted in large increases in staff in the Stores Department of that Railway.

26. We recognise that with the change in procedure involved in the introduction of Government Railway methods on a railway, large increases of staff are inevitable. We are not, however, convinced about the wisdom of introducing the present Government Railway methods in their entirety, on railways. We feel that a great deal of economy can be effected provided a thorough examination is made of the procedure in force on Company Railways and compare them with those on the Government Railways. We are not satisfied that the complicated system of Government Railway method necessarily reduces the risks commensurate with the additional work involved. We, therefore, recommend that the Railway Board should appoint a small Departmental Committee to enquire into this matter and recommend incorporation in the Government system of such elements in the Company methods as have proved their value.

27. Such an enquiry might, in our opinion, usefully cover stores procedure in all the railways generally. We would suggest that this enquiry may be entrusted to a Committee consisting of Stores and Accounts Officers who would submit their recommendations for improving Indian Railway Stores procedure and for introducing economies in the cost of the Stores Organisation. We consider that if an examination is undertaken by such a Committee and its recommendations implemented, there will be further substantial savings in the total expenditure on stores organisation of the Indian Railways beyond the figures suggested in para. 24.

28. The statement in paragraph 2 gives the progress of the stores balances from year to year. We have already stated in paragraph 8 how delays in procurement tend to increase these balances. Every additional crore of rupees locked up in stores means an additional payment of about three lakhs of rupees as interest. It also means the provision of larger storage capacity with consequent increased capital expenditure on which also interest has to be paid. In addition, it also involves the maintenance of a larger depot staff for the safe custody of the stores. It is, therefore, very important that every possible step should be taken to reduce the stores balances to the minimum, consistent with safety.

29. In paragraph 2, we have quoted the figures of closing balances in stores supplies for the years 1937-38 to 1945-46 which show steadily rising figures. In paragraph 28, we have commented upon the necessity for keeping these balances at a minimum. We have considered different alternative methods for prescribing the maximum which these stores balances should not exceed at any time. In view of the large fluctuations in prices, it is not possible to prescribe a monetary limit for the balances, which may be considered reasonable. The difficulty of doing so has been further enhanced by the fact that the figures as recorded in volume I and volume II of a certain of the annual Administration Reports do not tally.

30. We have kept these difficulties in mind and feel that perhaps the best method of fixing the maximum would be to work to a proportion of the year's requirements of such stores. Normally, it should be adequate if the Railways have in hand at any time not less than six months' and not more than eight months' requirements, in the case of goods available in the Indian market and not less than 15 months' and not more than 18 months' requirements in the case of stores imported direct. We are told that in the existing circumstances, Railways do not get their supplies even from the Indian market before 10 to 12 months have elapsed since the placing of demands. We consider that this must be curtailed. The recommendations we have made in paragraphs 13 and 12, suggesting a reduction in the list of items to be obtained through the Industry and Supply Department and the grant of power to two selected Railways for making their own purchases will, in our opinion, sufficiently lighten the load on the Industry and Supply Department to enable them to make their purchases promptly and expeditiously. In any case, Railways must have their supplies from the Indian market within six months of the placing of their demands, and there should be commensurate reduction in the period required for obtaining supplies in the case of stores imported direct. These recommendations should lead to substantial economies on account of reduction—which we estimate to be in the neighbourhood of five crores—in the stores balances.





## APPENDIX—XXVIII (b)

*Schedule of lives and percentage rates of contribution of wasting railway assets for the purpose of depreciation fund.*

Class of wasting asset.	Lives		Percentage rates of contribution		Remarks
	Existing (years)	Revised (years)	Existing %	Revised %	
<b>I. Bridge work—</b>					
(a) Steel work . . .	60	60	1.7	1.7	A. Originally 125 years; reduced to 100 years in 1938.
(b) Masonary . . .	100A	100	1.0	1.0	
<b>II. Permanent way—</b>					
(a) Rails and fastenings	60 40B }	50	1.7 2.5 }	2.0	B. Originally included in the composite item "Rails and fastenings including points and crossings" with a life of 60 years treated as a separate unit with life of 40 years with effect from 1935-36.
(c) Sleepers—wood . .	12C	15	8.3	6.7	
(d) Sleepers and fastenings—cast iron	40	40	2.5	2.5	C. Originally 15 years; reduced to 12 years in 1938.
(e) Sleepers and fastenings—steel trough.	35D	35	2.9	2.9	
<b>III. Buildings—</b>					
(a) Electric power stations and sub-station buildings.	40	125	2.5	0.8	E. Originally 200 years; reduced to 50 years in 1938
(b) All others . . . .	50E	125	2.0	0.8	
<b>IV. Station Machinery—</b>					
(a) Other than signal and interlocking machinery and power signalling	40	33½	2.5	3.0	F. Originally 40 years; reduced to 25 years in 1940.
(b) Signal and interlocking machinery and power signalling.		25	4.0	4.0	
<b>V. Plant and Machinery—</b>	20	20	5.0	5.0	
<b>VI. Locomotives—</b>					
(a) Loco. (including 2 boilers)	35	33½	2.9	3.0	G. Originally 25 years; reduced to 17 years in 1938.
(b) Boilers . . . . .	17G	20	5.9	5.0	
(c) Electric Loco. . . . .	35	35	2.9	2.9	
(d) Diesel electric loco. . . .	20	20	5.0	5.0	
(e) Battery loco. . . . .	25	25	4.0	4.0	
<b>VII. Coaching vehicles—</b>					
(a) B. G. . . . .	30	30		3.3	
(b) N. G. & M. G. . . . .		37½		2.7	
(c) Electric multiple units . .	30	25	3.3	4.0	
<b>VIII. Goods vehicles—</b>					
(a) B. G. . . . .	40	33½	2.5	3.0	
(b) N. G. & M. G. . . . .		40		2.5	
<b>IX. Motor vehicles—</b>					
(a) Rail (Rail cars) . . . . .	20	20	5.0	5.0	
(b) Road (service) . . . . .	10	8	10.0	12.5	
(c) Motor trollies . . . . .	10	13½	10.0	7.5	
(d) Road motor vehicles for public traffic.					
(i) Passenger vehicles . . . .	..	5	..	20.0	
(ii) Goods vehicles . . . . .	..	3½		30.0	
(iii) Gas Plant . . . . .	..	2		50.0	
<b>X. Ferries (including shore connections for ferries).</b>	40	33½	2.5	3.0	
<b>XI. Electrical assets other than III (a), IV (b), VI (d), (e) and VII (c)—</b>					Items (a) to (p) have been replaced by items (m) to (v)
(a) Telephone Apparatus . . .	13	..	7.7	..	
(b) Stationary Electric Power plant:—					
(i) Steam raising plant and auxiliaries.	20	..	5.0	..	
(ii) Steam prime mover driven generating plant.	20	..	5.0	..	
(iii) Transformer and converting equipment switchgear, instruments, etc.	20	..	5.0	..	



APPENDIX—XXVIII (b)—*Contd.*

Class of wasting asset	Lives		Percentage rates of contribution		Remarks
	Existing (Years)	Revised (Years)	Existing %	Revised %	
(iv) Oil engine prime mover complete with generator.	14	..	7.1	..	
(c) Train lighting dynamos and switchgear.	20	..	5.0	..	
(d) Electric transmission equipment.—					
(i) Overhead power lines . . .	30	..	2.0	..	
(ii) Overhead traction equipment—structures.	50	..	2.0	..	
(iii) Catenary copper . . .	30	..	2.0	..	
(iv) Catenary steel . . .	14	..	7.1	..	
(v) Contact wires . . .	20	..	5.0	..	
(vi) Insulators, fittings and switchgear.	30	..	5.0	..	
(vii) Bonds for structures . . .	10	..	10.0	..	
(viii) Bonds for running rails . .	20	..	5.0	..	
(ix) Underground cables—H. T. trunk lines.	30	..	3.3	..	
(x) Underground cables—Mains.	25	..	4.0	..	
(xi) V.I.R. cables in conduit . .	10	..	10.0	..	
(e) Internal wiring of buildings or coaching stock units.	10	..	10.0	..	
(f) Electric motors of one H. P. and above and apparatus for industrial purposes.	20	..	5.0	..	
(g) Electric fans—					
(i) Ceiling . . . . .	20	..	5.0	..	
(ii) Portable or carriage . . .	10	..	10.0	..	
(h) Domestic and industrial appliances other than those mentioned above.	5	..	20.0	..	
(i) External lighting fittings <sup>1</sup> . .	10	..	10.0	..	
(j) Batteries—stationery—lead acid	10	..	10.0	..	
(k) Batteries—Alkaline . . .	14	..	7.1	..	
(l) Batteries for vehicles including traction truck and train lighting :—					
(i) Lead acid . . . . .	6	..	16.7	..	
(ii) Alkaline . . . . .	10	..	10.0	..	
(m) Overhead Power lines . . .	..	60	..	1.5	
(n) Overhead traction lines excluding contact wires. . . . .	..	60	..	1.7	
(o) Underground cables . . .	..	30	..	3.3	
(p) Contact wires . . . . .	..	25	..	4.0	
(q) Electric Power Plant (excluding oil engine driven).	..	25	..	4.0	
(r) Electric plant above 25 h.p. or 25 k.w.	..	25	..	4.0	
(s) Block token instruments . . .	..	25	..	4.0	
(t) Electric power plant—oil engine driven.	..	15	..	6.7	
(u) Land lines . . . . .	..	13	..	7.7	
(v) Wireless . . . . .	..	13	..	7.7	

## APPENDIX—XXIX

## A. ENGINEERING STAFF.

## 1. Maintenance of Track

## (a) Gangmen, Keymen and Mates.\*

Railways		No. of gangmen	No. of gangmen per equated track mile	% increase or decrease	No. of Mates
B. A.	{ 1938-39 1945-46	20,483 14,266	5.88 2.98	—49.3	2,554 4,241
B.N.	{ 1938-39 1945-46	12,315 17,813	3.45 4.57	32.5	2,605 2,878
B. B. & C. I.	{ 1938-39 1945-46	9,342 9,819	2.77 2.90	3.94	4,810 4,949
E. I.	{ 1938-39 1945-46	28,843 34,944	4.42 5.47	23.8	3,171 3,590
G. I. P.	{ 1938-39 1945-46	15,282 28,009	3.16 5.65	78.8	2,713 2,996
M. & S. M.	{ 1938-39 1945-46	7,233 10,029	2.25 3.11	38.2	1,833 2,126
N. W.	{ 1938-39 1945-46	21,486 25,138	2.46 2.88	17.1	Figures in- cluded un- der gang- men. 1,833 2,126
O. T.	{ 1938-39 1945-46	5,054 6,395	1.67 1.86	11.4	1,782 1,897
S. I.	{ 1938-39 1945-46	5,631 6,190	2.12 2.77	30.7	1,679 1,395
Total	{ 1938-39 1945-46	126,299 152,603	3.17 3.72	17.3	21,197 24,072

\* Includes temporary men employed as on the last day of the year.

## (b) Other Engineering Staff.\*\*

Railways	Total No. of staff		No. of staff per equated track mile		
	1938-39	1945-46	1938-39	1945-46	% increase or decrease
B. A.	2,583	7,820	0.74	1.63	120.3
B. N.	3,945	5,011	1.11	1.29	16.2
B. B. & C. I.	2,112	3,001	0.62	0.89	43.5
E. I.	793	1,001	0.12	0.16	33.3
G. I. P.	3,491	4,564	0.72	0.92	27.7
M. & S. M.	2,185	4,187	0.99	1.30	31.3
N. W.	3,626	3,991	0.42	0.46	9.52
O. T.	2,354	2,664	0.69	0.78	11.4
S. I.	1,772	2,123	0.67	0.95	41.8
Total	23,861	34,362	0.60	0.84	40.0

\*\*Includes temporary men employed as on the last day of the year.

Includes Inspectors and Assistants, Supervising Mistries and Class IV staff other than those included in (a) above.

## APPENDIX—XXIX

## A—ENGINEERING STAFF—Contd.

## (2) Maintenance of Buildings etc.

## (a) Class III Staff\*

Railway	Total No. of Staff		Staff per 1000 s. ft. of plinth area		% increase or decrease
	1938-39	1945-46	1938-39	1945-46	
B. A. . . . .	490	541	0.065	0.041	—37.0
B. N. . . . .	199	302	0.012	0.016	33.3
B. B. & C. I. . . . .	144	152	..	..	..
E. I. . . . .	306	409	0.007	0.009	28.6
G. I. P. . . . .	549	683	0.024	0.030	25.0
M. & S. M. . . . .	13	101	0.001	0.006	500.0
N. W.* . . . . .	591	697	0.006	0.007	16.7
O. T. . . . .	46	62	..	..	..
S. I. . . . .	110	155	0.008	0.011	37.5
Total . . . . .	2,448	3,102	..	..	..

\*Includes Inspectors and Assistants, Supervising Mistries, etc.

## (b) Class IV Staff.

B. A. . . . .	945	1,762	0.126	0.135	7.14
B. N. . . . .	2,444	3,441	0.141	0.177	25.50
B. B. & C. I. . . . .	1,807	2,089	..	..	..
E. I. . . . .	14,647	17,700	0.348	0.399	14.70
G. I. P. . . . .	2,184	5,094	0.094	0.222	136.20
M. & S. M. . . . .	397	1,324	0.026	0.084	223.10
N. W. . . . .	2,843	3,024	0.031	0.032	3.23
O. T. . . . .	2,019	2,198	..	..	..
S. I. . . . .	704	2,825	0.055	0.209	280.00
Total . . . . .	27,990	39,457	..	..	..

## 3. Staff on Maintenance of Signalling and Interlocking gear.

Railways	No. of staff		No. of levers per head		% increase or decrease
	1938-39	1945-46	1938-39	1945-46	
B. A. . . . .	923	1,683	12.0	5.86	—54.6
B. N. . . . .	1,228	2,018	7.6	5.76	—24.2
B. B. & C. I. . . . .	1,257	1,412	12.1	12.0	—0.8
E. I. . . . .	1,417	1,666	13.5	12.0	—4.4
G. I. P. . . . .	958	1,155	13.5	11.5	—14.8
M. & S. M. . . . .	404	479	22.0	24.5	+7.0
N. W.* . . . . .	1,787	2,540	11.30	8.27	—20.8
O. T. . . . .	290	483	..	..	..
S. I. . . . .	..	352	..	22.2	..
Total . . . . .	8,324	11,436	..	..	..
Excl. S. I. . . . .	..	..	..	..	..

Includes Inspectors and Assistants, Supervising Mistries and Class IV staff.

\*Signal shops staff included.

## 4. Staff on Maintenance of Bridges.

Railways	1938-39	1945-46
B. A. . . . .	85	446
B. N. . . . .	259	474
B. B. & C. I. . . . .	59	44
E. I. . . . .	61	149
G. I. P.* . . . . .	786	1,971
M. & S. M. . . . .	169	200
N. W.* . . . . .	044	1,776
O. T. . . . .	..	..
S. I. . . . .	52	100
Total . . . . .	2,515	5,160

\*Includes Bridge workshop staff.

† No separate Bridge Department.

## APPENDIX—XXIX

## B—MECHANICAL WORKSHOPS STAFF

## (1) Locomotive Workshops.

(a) *Skilled, Semi-skilled and un-skilled Staff.*

Railways	Skilled and Semi-skilled Staff			Un-Skilled Staff		
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease
B. N. . . . .	2,957	3,556	+20.3	1,491	1,853	+24.3
B. B. & C. I. . . . .	3,515	4,517	+27.0	1,370	2,360	+73.3
E. I. . . . .	7,887	10,339	+31.0	1,574	2,087	+30.8
G. I. P. . . . .	2,624	5,233	+101.3	1,015	2,231	+119.5
M. & S. M. . . . .	1,135	4,809	+21.4	2,007	3,083	+53.6
O. T. . . . .	2,145	3,124	+18.1	649	1,274	+86.3
S. I. . . . .	2,927	3,809	+30.1	747	599	-19.8
Total . . . . .	20,670	35,577	+33.4	8,893	14,367	+61.7

(b) *Subordinate supervisory and other Staff.*

Railways	Subordinate Supervisory staff			Other Staff*		
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease
B. N. . . . .	314	393	+22.0	276	341	+23.6
B. B. & C. I. . . . .	261	345	+32.2	298	360	+20.8
E. I. . . . .	678	764	+12.7	483	626	+29.6
G. I. P. . . . .	447	607	+35.8	198	525	+165.2
M. & S. M. . . . .	209	207	-1.0	426	636	+49.3
O. T. . . . .	98	159	+62.2	132	171	+29.5
S. I. . . . .	182	209	+14.8	222	303	+36.5
Total . . . . .	2,189	2,674	+22.2	2,035	2,662	+30.6

\*Includes Time Office, Laboratory, Progress Office, Drawing Office, Clerical Staff etc.

## (2) Carriage and Wagon Workshops

(a) *Skilled, Semi-skilled and un-skilled Staff.*

Railways	Skilled and Semi-skilled staff			Un-skilled staff		
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease
B. N. . . . .	2,419	2,360	-1.5	1,187	1,311	+10.4
B. B. & C. I. . . . .	4,086	5,615	+37.4	1,883	3,073	+63.2
E. I. . . . .	8,257	9,330	+12.9	1,254	2,055	+63.9
G. I. P. . . . .	2,884	4,803	+66.5	1,142	2,155	+88.7
M. & S. M. . . . .	1,853	2,383	+28.6	364	973	+167.0
O. T. . . . .		Included in Loco.			Included in Loco.	
S. I. . . . .		Included in Loco.			Included in Loco.	
Total . . . . .	19,499	24,491	+25.6	5,830	9,466	+62.4

## APPENDIX—XXIX

## B. MECHANICAL WORKSHOPS STAFF—(contd)

(b) Subordinate supervisory and other Staff.

Railways	Subordinate Supervisory Staff			Other Staff*		
	1938-39	1945-46	% increase or decrease	1938-39	1945-46	% increase or decrease
B. N.	124	119	-4.0	141	145	+2.8
B. B. & C. I.	244	354	+45.1	355	336	-5.4
E. I.	309	329	+6.5	337	453	+34.4
G. I. P.	163	240	+47.2	192	382	+99.0
M. & S. M.	48	57	+18.8	Included in Loco.		
O. T.	Included in Loco.			Included in Loco.		
S. I.	Included in Loco.			Included in Loco.		
Total	888	1,099	+23.7	1,025	1,316	+28.4

\*Includes Time office Laboratory, Progress Office, Drawing Office, Clerical staff, etc.

## C—OPERATING STAFF

(1) Power.

(a) Running Staff\*

Railways	1938-39		1945-46		Percentage increase or decrease	
	No. of men	Annual engine miles per head	No. of men	Annual engine miles per head	No. of men	Annual engine miles per head
B. A.	2,403	9,283	6,782	4,553	+182.2	-51.0
B. N.	3,103	7,263	4,533	5,688	+46.0	-21.7
B. B. & C. I.	2,136	9,370	2,491	7,418	+16.6	-20.0
E. I.	5,212	8,401	7,840	5,189	+50.4	-38.3
G. I. P.	2,794	8,730	4,970	6,191	+77.8	-29.1
M. & S. M.	2,246	7,746	2,644	7,129	+17.7	-8.0
N. W.	5,320	6,163	7,159	4,671	+34.5	-24.2
O. T.	1,575	9,373	1,892	6,865	+20.0	-26.8
S. I.	1,721	9,509	2,132	5,393	+23.9	-43.3
Total	26,510	8,054	40,443	5,523	+52.6	-31.4

(b) Shed Staff\*\*

B. A.	5,887	3,789	13,724	2,250	+133.1	-40.6
B. N.	5,791	3,891	7,839	3,289	+35.4	-15.5
B. B. & C. I.	5,225	3,789	6,674	2,768	+27.7	-27.0
E. I.	8,708	5,028	13,319	3,055	+52.9	-39.2
G. I. P.	5,324	4,581	17,345	1,774	+225.7	-61.3
M. & S. M.	4,465	3,897	6,063	3,109	+35.8	-20.2
N. W.	6,352	5,065	12,236	2,733	+92.6	-46.0
O. T.	2,461	5,999	3,002	4,328	+22.0	-27.0
S. I.	3,199	5,116	3,879	2,964	+21.3	-42.1
Total	47,412	4,503	84,081	2,857	+77.3	-41.0

\* Includes Loco Inspectors, Power Controllers, Drivers, Shunters, Firemen and other running staff.

\*\*Includes Foremen, Assistant Foremen, Shedmen, Clerical staff, Chargemen and Journeymen, and other Supervising fitters, Mistries etc. and Class IV staff. Also includes staff employed on Fuel distribution and economy organisation.

## APPENDIX—XXIX

C. OPERATING STAFF—*contd.*

(2) Carriage and Wagon.

(a) Train Examining Staff\*

Percentage increase or decrease

Railways		No. of Men	Annual Wagon and Vehicle miles	No. of men	Annual wagon and Vehicle miles per head
B. A.	1938-39	191	2,108,277	..	..
	1945-46	334	2,091,129	+74.8	-0.8
B. N.	1938-39	1,409	330,270	..	..
	1945-46	1,613	326,930	+14.5	-1.1
B., B. & C. I.	1938-39	620	714,360	..	..
	1945-46	752	568,960	+21.3	-20.4
E. I.	1938-39	2,074	464,346	..	..
	1945-46	2,883	339,182	+39.0	-26.3
G. L. P.	1938-39	1,493	351,076	..	..
	1945-46	3,242	204,192	+117.1	..
M. & S. M.	1938-39	569	580,980	..	..
	1945-46	749	485,270	+31.6	-16.4
N. W.	1938-39	1,285	509,678	..	..
	1945-46	1,800	384,066	+40.0	-24.5
O. T.	1938-39	668	362,780	..	..
	1945-46	714	337,030	+6.9	-7.1
S. I.	1938-39	147	1,701,080	..	..
	1945-46	209	1,108,330	+42.2	-34.8
Total	1938-39	8,456	505,660	..	..
	1945-46	12,296	392,175	+45.4	-22.4

\* Includes Carriage and Wagon Inspectors, Train Examiners, Assistants and other subordinates and Class IV Staff.

(b) Sick and Washing Line—Repair Staff\*\*

Percentage increase or decrease

Railways		No. of Men	Annual Wagon and Vehicle miles per head	No. of men	Annual Wagon and Vehicle miles per head
B. A.	1938-39	867	464,453	..	..
	1945-46	2,282	306,064	+163.2	-34.1
B. N.	1938-39	2,662	174,801	..	..
	1945-46	2,951	173,698	+10.9	+2.2
B., B. & C. I.	1938-39	1,788	247,709	..	..
	1945-46	2,214	193,235	+23.8	-22.0
E. I.	1938-39	2,037	472,678	..	..
	1945-46	3,066	318,938	+50.5	-32.5
G. L. P.	1938-39	2,210	237,176	..	..
	1945-46	4,434	149,299	+100.6	-37.1
M. & S. M.	1938-39	330	1,001,760	..	..
	1945-46	477	761,990	+44.5	-24.0
N. W.	1938-39	1,714	382,110	..	..
	1945-46	2,751	251,886	+60.5	-34.1
O. T.	1938-39	64	3,786,500	..	..
	1945-46	77	3,125,200	+20.3	-17.5
S. I.	1938-39	482	518,790	..	..
	1945-46	530	437,060	+10.0	-15.8
Total	1938-39	12,154	351,807	..	..
	1945-46	18,782	256,745	+54.5	-

## APPENDIX XXIX

C.—OPERATING STAFF—*contd.*(2) Carriage and Wagon—*contd.*

(c) Carriage Cleaning Staff\*\*\*

Railways	1938-39 Number	1945-46 Number	% increase or decrease
B. A. . . . .	102	599	487.3
B. N. . . . .	213	553	159.6
B., B. & C. I. . . . .	547	799	46.1
E. I. . . . .	1,496	2,814	88.1
G. I. P. . . . .	435	1,194	174.4
M. & S. M. . . . .	404	626	55.0
N. W. . . . .	849	1,919	126.0
O. T. . . . .	374	389	4.0
S. I. . . . .	596	806	35.2
Total . . . . .	5,016	9,699	93.4

\*\*\*Includes Supervisory and Class IV Staff.

## 3. Traffic (including Commercial Staff) at Stations.

(a) Station Staff on Movement of Trains\*

Railways	1938-39		1945-46		% increase or decrease	
	No. of staff	Annual train miles per head	No. of staff	Annual train miles per head	No. of staff	Annual train miles per head
B. A. . . . .	10,434	1,656	14,731	1,310	+41.2	-20.9
B. N. . . . .	5,125	3,141	6,453	2,585	+25.9	-17.7
B., B. & C. I. . . . .	6,814	2,359	7,005	2,031	+2.8	-13.9
E. I. . . . .	12,865	2,493	14,835	1,839	+15.3	-26.2
G. I. P. . . . .	8,344	2,241	10,596	2,112	+19.8	-5.9
M. & S. M. . . . .	3,965	3,590	4,345	3,290	+9.6	-8.4
N. W. . . . .	6,795	3,820	7,493	3,330	+10.3	-12.2
O. T. . . . .	3,171	3,541	3,725	2,424	+17.5	-31.5
S. I. . . . .	(Not available)		6,831	1,313	..	..

\*Includes Station Superintendents, Station Masters, Assistant Station Masters, Signallors, Cabinmen, Switchmen, Traffic Pointamen, Traffic Gate-men and other Class IV Staff.

## (b) Running Staff Movement of Trains\*\*

B. A. . . . .	1,757	22,831	1,383	13,957	+82.7	-38.9
B. N. . . . .	1,048	16,132	1,479	11,281	+41.1	-30.1
B., B. & C. I. . . . .	698	23,360	833	17,076	+21.1	-26.9
E. I. . . . .	1,912	16,774	2,593	10,523	+35.6	-37.8
G. I. P. . . . .	1,414	14,036	2,175	10,291	+53.8	-26.7
M. & S. M. . . . .	907	15,695	1,134	12,609	+25.0	-19.7
N. W. . . . .	1,889	13,742	2,487	10,033	+31.7	-27.0
O. T. . . . .	552	20,342	571	15,816	+3.4	-22.3
S. I. . . . .	(Not available)		1,232	7,281	...	...

\*\*Includes Guards, Vantrain Sorters, Train Chasers, Travelling traffic Class IV Staff.

## APPENDIX XXIX

C.—OPERATING STAFF—*contd.*

## (3) Traffic (including Commercial) Staff at Stations

## (a) Staff on Booking of Passenger and other Coaching Traffic.\*

Railways	1938-39		1945-46		Percentage increase or decrease	
	No. of men	No. of passengers carried per head of staff	No. of staff	No. of passengers carried per head of staff	No. of staff	No. of passengers carried per head of staff
B. A. . . . .	1,860	32,073	3,333	32,364	+73.8	+0.9
B. N. . . . .	326	62,940	529	79,098	+62.3	+25.7
B., B. & C. I. . . . .	1,172	79,880	1,612	109,953	+37.5	+37.6
E. I. . . . .	1,308	47,768	2,011	50,623	+53.7	+6.0
G. I. P. . . . .	1,397	40,956	2,185	64,346	+56.4	+57.1
M. & S. M. . . . .	664	49,482	1,063	67,057	+60.0	+35.7
N. W. . . . .	2,915	22,530	4,197	38,403	+44.0	+70.5
O. T. . . . .	204	194,897	249	268,422	+22.1	+37.7
S. I. . . . .	(Not available)		1,020	98,474	..	..

\*Includes Booking Clerks, Luggage and Parcels Clerks, Porters, enquiry and reservation staff and attached Class IV staff etc.

## (d) Staff on Checking of Passenger Traffic.\*\*

B. A. . . . .	581	102,680	633	165,295	8.9	60.9
B. N. . . . .	344	59,650	513	81,580	49.1	36.7
B., B. & C. I. . . . .	661	141,630	815	143,800	22.3	1.5
E. I. . . . .	1,558	40,103	1,961	51,900	25.9	29.4
G. I. P. . . . .	632	90,530	882	159,405	39.5	76.1
M. & S. M. . . . .	372	88,230	484	147,370	30.1	66.9
N. W. . . . .	1,130	58,118	1,674	96,280	48.1	65.7
O. T. . . . .	336	118,310	443	150,870	31.8	27.5
S. I. . . . .	(Not available)		533	188,400	...	..

\*\*Includes Ticket Collectors and Travelling Ticket Examiners, etc.

## (e) Staff on Booking and Delivery of goods Traffic\*

Railways	Percentage increase or decrease			
	No. of staff	No. of tons carried per head of staff	No. of staff	No. of tons carried per head of staff
B. A. . . . .	1938-39 3,393	2,473	..	..
	1945-46 7,327	1,835	115.9	-25.6
B. N. . . . .	1938-39 721	25,943	..	..
	1945-46 1,339	14,303	85.7	-44.9
B., B. & C. I. . . . .	1938-39 1,132	7,443	..	..
	1945-46 1,578	6,326	39.4	-15.0
E. I. . . . .	1938-39 1,771	14,927	..	..
	1945-46 2,293	12,456	29.5	-16.6
G. I. P. . . . .	1938-39 2,707	4,058	..	..
	1945-46 3,306	4,655	22.1	+14.7
M. & S. M. . . . .	1938-39 1,220	5,121	..	..
	1945-46 1,722	5,089	41.1	-0.7
N. W. . . . .	1938-39 1,790	7,932	..	..
	1945-46 2,558	6,082	42.9	-23.3
O. T. . . . .	1938-39 850	7,524	..	..
	1945-46 1,196	4,679	40.7	-37.6
S. I. . . . .	1938-39 (Not available)	..	..	..
	1945-46 1,209	5,199	..	..

\*Includes Goods Clerks, transit and other clerks and attached Class IV staff.



## APPENDIX XXIX

C.—OPERATING STAFF—*contd.*(3) Traffic (including Commercial) Staff at Stations.—*Contd.*

## (f) Staff on Yard Working.\*\*

Railways			Percentage increase or decrease			
			No. of staff	Annual wagon miles per head of staff	No. of staff	Annual wagon miles per head of staff
B. A.		1938-39	2,660	76,189	..	..
		1945-46	4,696	92,732	76.5	+21.3
B. N.		1938-39	2,891	115,933	..	..
		1945-46	5,048	73,155	74.6	-36.9
B., B. & C. I.		1938-39	2,040	136,606	..	..
		1945-46	2,647	112,239	29.8	-17.8
E. I.]		1938-39	4,037	167,600	..	..
		1945-46	5,000	140,067	23.9	-16.4
G. I. P.		1938-39	2,920	115,627	..	..
		1945-46	4,958	84,097	69.8	-27.8
M. & S. M.		1938-39	1,226	174,431	..	..
		1945-46	1,730	127,673	41.1	-26.8
N. W.		1938-39	4,401	90,332	..	..
		1945-46	5,516	73,024	25.3	-19.2
O. T. ]		1938-39	1,863	71,347	..	..
		1945-46	2,541	58,717	36.4	-17.7
S. I.		1938-39	(Not available)		..	..
		1945-46	491	262,510	..	..

\*\*Includes Yard Supervisors, Foremen, training other clerks, Shunting Janadars, Pointmen and attached Class IV staff.

## (g) Control Office Staff on Movement of Trains\*

Railways			Percentage increase or decrease			
			No. of staff	Annual train miles per head	No. of staff	Annual train miles per head
B. A.		1938-39	148	116,777	..	..
		1945-46	191	106,298	29.1	-8.98
B. N.		1938-39	241	66,288	..	..
		1945-46	378	44,137	56.8	-33.4
B., B. & C. I.		1938-39	106	151,650	..	..
		1945-46	129	110,271	21.7	-27.3
E. I.]		1938-39	881	36,404	..	..
		1945-46	1,061	25,716	20.4	-29.4
G. I. P.		1938-39	140	141,771	..	..
		1945-46	276	81,097	97.1	-42.8
M. & S. M.		1938-39	74	192,370	..	..
		1945-46	104	137,490	40.5	-28.6
N. W.		1938-39	131	198,160	..	..
		1945-46	248	100,612	89.3	-49.2
O. T. ]		1938-39	21	534,710	..	..
		1945-46	25	361,240	19.0	-33.4
S. I.		1938-39	(Not available)		..	..
		1945-46	97	92,474	..	..

\*Includes Controllers and attached clerical and Class IV staff.

APPENDIX XXIX—*contd.*C.—OPERATING STAFF—*contd.*(3.) Traffic (including Commercial) Staff at Stations.—*contd.*

(h) Traffic (including Commercial) Inspectors and Assistants.

Railways	1938-39	1945-46	% increase or decrease
B. A. . . . .	64	216	+237.5
B. N. . . . .	90	111	+23.3
B., B. & C. I. . . . .	32	36	+12.5
E. I. . . . .	97	141	+45.3
G. I. P. . . . .	74	161	+117.5
M. & S. M. . . . .	28	49	+75.0
N. W. . . . .	Not available	..	..
O. T. . . . .	13	12	-7.7
S. I. . . . .	Not available	22	..

## (i) Watch and Ward Staff\*\*\*

B. A. . . . .	2,194	2,695	+22.8
B. N. . . . .	2,233	3,456	+54.8
B., B. & C. I. . . . .	1,428	3,135	+119.5
E. I. . . . .	2,398	4,206	+75.4
G. I. P. . . . .	1,161	3,050	+161.7
M. & S. M. . . . .	530	711	+34.2
N. W. . . . .	2,740	4,413	+60.5
O. T. . . . .	No separate Organisation		
S. I. . . . .	Not available	596	..

\*\*\*Includes Supervisors, Inspectors and Assistants, Watchmen and other staff on Watch and Ward duties.

## D.—STORES AND PRINTING PRESS STAFF

(a) Stores Staff in the various Depots\*

Railways	Stores Staff		No. of transactions† per head of staff		% increase or decrease
	1938-39	1945-46	1938-39	1945-46	
B. A. . . . .	1,508	3,101	Not available.		
B. N. . . . .	1,121	1,445	Not available.		
B., B. & C. I. . . . .	786	1,343	702	328	-58.8
E. I. . . . .	2,024	3,004	307	228	-25.7
G. I. P. . . . .	1,009	1,926	Not available	411	..
M. & S. M. . . . .	482	594	612	834	+36.2
N. W. . . . .	2,315	3,053	543	659	+21.4
O. T. . . . .	120	860‡	657	145	-77.9
S. I. . . . .	141	303	911	601	-34.0
Total	9,506	15,629	..	..	..

\*Includes Stores, Ward and Ledger Keepers and Class IV staff.

†No. of transactions of those depots for which figures for any of the two years are not available, has been excluded. The figures for the two years are, however, comparable.

‡The large increase on the O. T. Railway, we are told, is due to the change over to Government Railway system.

## APPENDIX XXIX—contd.

## (b) Printing Press Staff.

Railways	No. of staff on the last date of the year		
	1938-39	1945-46	% increase or decrease
B. A.	171	..	..
B. N.	35	53	51.4
B., B. & C. I.	..	94	..
E. I.	1,040	1,333	18.6
G. I. P.	155	180	16.1
M. & S. M.	231	251	8.7
N. W.	376	622	65.4
O. T.	165	227	37.6
S. I.	67	68	1.5

## E.—FOOD GRAINS ORGANISATION STAFF

Railways	No. of Staff		Total No. of staff on the Railway		Total staff per head of Food Supply Staff	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A.	Nil	3,125	Nil	140,959	..	45
B. N.	Nil	2,957	Nil	94,496	..	32
B., B. & C. I.	Nil	2,762	Nil	81,445	..	30
E. I.	Nil	3,187	Nil	171,439	..	54
G. I. P.	Nil	2,639	Nil	146,723	..	56
M. & S. M.	Nil	1,293	Nil	65,437	..	51
N. W.	Nil	2,071	Nil	134,751	..	65
O. T.	Nil	823	Nil	41,668	..	51
S. I.	Nil	810	Nil	48,589	..	60
Total	..	19,667	..	925,887	..	47

## F.—FERRY STEAMER &amp; HARBOUR SERVICES STAFF

Railways	No. of staff on the last day of the year.		
	1938-39	1945-46	% increase or decrease
B. A.	1,129	1,490	+32.0
B. N.	627	653	+4.1
E. I.	221	179	-19.0
O. T.	1,307	1,218	-6.8
S. I.	229	407	+77.7
Total	3,413	3,947	+15.7

## G.—MISCELLANEOUS SERVICES STAFF\*

Railways	1938-39	1945-46
B. A.	1,035	1,493
B. N.	1,912	3,264
B., B. & C. I.	823	1,293
E. I.	1,566	2,433
G. I. P.	1,106	1,591
M. & S. M.	1,770	2,753
N. W.	4,646	5,741
O. T.	61	225
S. I.	†	1,998

\*These include staff on ancillary services, catering, railway schools and other staff. These do not include "other staff" of the Headquarters or Divisional/District Officers or in Workshops.

†Figures for 1938-39 in respect of some branches are not available.

APPENDIX XXIX—*contd.*

## H. OFFICE STAFF

(a) *Engineering Departments.*

Railways	Class III		Class IV		No. of line staff per office staff Class III & IV		No. of office staff per equated track mile	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A. . . . .	698	897	287	340	29.1	24.1	28	26
B. N. . . . .	525	712	296	482	28.0	26.8	23	30
B., B. & C. I. . . . .	499	569	185	200	28.5	27.9	20	23
E. I. . . . .	545	800	176	177	68.3	76.5	11	12
G. I. P. . . . .	535	877	212	261	34.7	39.0	15	23
M. & S.M. . . . .	282	369	90	134	36.0	36.6	11	16
N. W. . . . .	238	331	147	178	77.9	68.9	04	06
O. T. . . . .	167	327	184	248	34.6	23.8	13	17
S. I. . . . .	356	431	209	232	17.6	21.3	21	30
Total . . . . .	2,845	5,103	1,766	2,252	37.6	36.4	14	18

(b) *Mechanical and Electrical Departments (other than in shops)*

Railways	Class III		Class IV		No. of line staff per office staff (Class III and Class IV)		No. of office staff per million engine miles	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A. . . . .	639	460*	231	167*	..	..	30.2	36.6
B. N. . . . .	503	718	177	228	21.5	20.9	28.6	38.5
B., B. & C. I. . . . .	461	593	106	120	20.2	21.0	11.7	15.3
E. I. . . . .	339	428	171	197	59.4	76.7	9.1	13.9
G. I. P. . . . .	176	349	47	80	37.2	39.7	14.1	16.0
M. & S.M. . . . .	174	216	71	85	..	..	10.6	15.5
N. W. . . . .	216	318	104	154	27.4	20.6	15.5	36.4
O. T. . . . .	127	161	33	41	..	..	..	..
S. I. . . . .	203	353	52	66	..	..	..	..

\*1945-46 figures incomplete.

(c) *Operating (Transportation) Departments*

Railways	Class III		Class IV		No. of the staff* per office staff (Class III & IV)		No. of office staff per million train miles	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A. . . . .	888	176†	204	68†	97.0	52.8	16.3	38.9
B. N. . . . .	193	548	77	148	44.8	43.7	29.0	41.1
B., B. & C. I. . . . .	384	500	160	203	74.0	67.3	18.6	32.8
E. I. . . . .	499	750	127	201	34.3	38.1	23.0	55.6
G. I. P. . . . .	713	1,250	206	292	28.1	19.4	51.0	76.3
M. & S.M. . . . .	596	905	139	225	28.0	..	28.2	66.0
N. W. . . . .	303	394	98	136	36.5	23.7	..	56.6
O. T. ‡ . . . . .	258	515	75	112	..	33.0	..	..
S. I. . . . .	Not available	435	Not available	158	..	..	..	..

\*Includes all Operating (Power, C. &amp; W., Traffic and Commercial) Staff.

†1945-46 figures incomplete.

‡Includes Commercial.

(d) *Commercial Department*

B. A. . . . .	288	694	Not available	119	..	..	..	40.0
B. N. . . . .	474	1,029	193	298	16.2	11.9	40.2	74.1
B., B. & C. I. . . . .	136	218	22	44	80.0	55.9	8.4	15.3
E. I. . . . .	720	958	154	281	27.9	24.1	26.0	43.7
G. I. P. . . . .	351	700	83	143	41.7	29.1	18.4	20.4
M. & S.M. . . . .	116	265	51	77	50.6	31.1	11.6	23.1
N. W. . . . .	374	598	107	151	28.0	13.1	18.2	29.6
O. T. . . . .	Included	under	Operating	and Transportation.	..	..	..	..
S. I. . . . .	Not available	159	Not available	53	Not available	53.9	Not available	20.2

\*Line Staff for statement 'd' includes all Traffic and Commercial (excluding Watch and Ward) Staff at Stations.

APPENDIX XXIX—*contd.*H. OFFICE STAFF—*contd.*(e) *Stores.*

Railways	Class III		Class IV		No. of transactions* per office staff	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A. . . . .	93	231	27	60	Not available	
B. N. . . . .	129	195	48	59	Not available	
B., B. & C. I. . . . .	93	128	22	25	4,800	2,878
E. I. . . . .	111	176	24	39	4,610	3,189
G. I. P. . . . .	96	243	26	61	Not available	2,603
M. & S. M. . . . .	53	71	16	15	4,278	5,763
N. W. . . . .	160	214	75	112	5,346	6,171
O. T. . . . .	30	124	2	58	2,463	651
S. I. . . . .	87	146	26	36	1,137	1,001
Total . . . . .	852	1,538	266	465	..	..

\*Figures of transactions of Depots for which both years' figures are not available have been excluded to make them comparable.

(f) *Stores Accounts*

Railways	Class III		Class IV		Value of stores handled per head of staff (in Lakhs)	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A. . . . .	99	214	5	10	3.53	4.28
B. N. . . . .	117	135	9	11	3.72	7.80
B., B. & C. I. . . . .	104	136	6	11	2.52	5.13
E. I. . . . .	123	171	17	19	4.82	13.60
G. I. P. . . . .	80	121	4	5	4.18	7.66
M. & S. M. . . . .	77	89	6	5	2.61	4.82
N. W. . . . .	119	194	20	23	3.93	7.73
O. T. . . . .	Figures included in General Accounts.					
S. I. . . . .	46	51	2	2	3.88	7.66
Total . . . . .	765	1,111	69	86	..	..

(g) *Workshop Accounts*

Railways	Class III		Class IV		Workshop repairs expenditure per head of staff (000)	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
					Rs.	Rs.
B. A. . . . .	118	215	9	14	35.5	43.5
B. N. . . . .	170	210	21	23	25.8	37.6
B., B. & C. I. . . . .	74	169	3	9	64.5	45.4
E. I. . . . .	205	233	24	28	40.1	50.9
G. I. P. . . . .	80	113	12	13	56.7	86.1
M. & S. M. . . . .	168	206	19	19	18.9	24.6
N. W. . . . .	136	203	17	24	54.6	49.8
O. T. . . . .	39	59	4	9		32.0
S. I. . . . .	178	256	10	11	10.3	11.7
Total . . . . .	1,163	1,669	119	148	34.3	40.3

APPENDIX XXIX—*contd.*H. OFFICE STAFF—*contd.*(h) *Traffic Accounts.*

Railways	Class III		Class IV		Total tons per* head of staff (000)	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A.**	351	529	19	34	23	28
B. N.	378	648	46	84	48	27
B., B. & C. I.**	308	392	31	44	31	36
E. I. **	459	763	43	75	52	35
G. I. P.**	241	311	20	24	40	51
M. & S. M.	375	635	..	..	15	15
N. W.**	697	1,080	49	99	20	18
O. T.	410	540	33	47	16	14
S. I.	335	597	25	61	23	17
Total	3,554	5,504	266	468	29	25

\*The figures include passenger figures converted into tons.

\*\*These railways are parties to the Clearing Accounts Office.

(i) *General Accounts.*

Railways	Class III		Class IV		Total staff on the Ry. per head of General Accounts Staff	
	1938-39	1945-46	1938-39	1945-46	1938-39	1945-46
B. A.	283	631	26	79	229	199
B. N.	266	458	44	69	225	179
B., B. & C. I.	236	384	38	46	229	190
E. I.	669	967	81	114	174	158
G. I. P.	197	348	28	39	345	379
M. & S. M.	172	327	55	74	208	163
N. W.	354	696	80	125	235	164
O. T.†	115	282	40	53	228	124
S. I.	223	356	25	45	148	121
Total	2,515	4,449	417	644	..	..

† Includes Stores Accounts Staff also.

(j) *General Administration (including Personnel and Statistical Branches).*

Railways	Class III		Class IV	
	1938-39	1945-46	1938-39	1945-46
B. A.	427	754	95	212
B. N.	262	413	67	129
B., B. & C. I.	194	253	43	65
E. I.*	531	886	175	295
G. I. P.	100	134	27	33
M. & S. M.	160	187	36	41
N. W.*	513	673	354	428
O. T.	24	58	16	32
S. I.	143	183	70	94
Total	2,354	3,541	883	1,329

\*On divisional system with Centralised Personnel work.

APPENDIX XXIX—*contd.*H. OFFICE STAFF—*contd.*(k) *Miscellaneous other Branches (other than Food).*

Railways	Class III		Class IV	
	1938-39	1945-46	1938-39	1945-46
B. A.	51	133	68	70
B. N.	28	58	25	25
B., B. & C. I.	124	146	213	297
E. I.	85	156	361	442
G. I. P.	34	65	59	117
M. & S. M.	17	26	23	29
N. W.	478	613	284	342
O. T.	7	26	6	22
S. I.	30	44	22	27
Total	854	1,287	1,061	1,371

(l) *Inspecting (outdoor) staff attached to Headquarters and Divisional/District Offices.*

(Excluding Food Supply Organisation).

Railways	Class III		Class IV	
	1938-39	1945-46	1938-39	1945-46
B. A.	807	1,040	2,546	7,561
B. N.	635	1,021	2,007	3,067
B., B. & C. I.	949	1,470	428	936
E. I.	732	1,026	2,667	3,088
G. I. P.	602	865	4,048	5,904
M. & S. M.	896	1,210	1,391	1,812
N. W.	660	996	3,815	5,228
O. T.	218	414	276	451
S. I.	377	687	1,993	2,691
Total	5,876	8,729	19,171	30,828

APPENDIX XXX  
Statement showing the expansion of the Ministerial Establishment  
(Class II and III) in the office of Railway Board

Serial No.	Particulars	Superintendents	Asstt. in-charge	Asstts.	Routine clerks	Stenos. typists	Accountants	Draughtsmen and Tracers	Other staff	Total	Remarks
1	Permanent strength	8	(c)	36	102(b)	19	5	..	1	171	(a) One post held in absence.
2	Permanent and temporary strength in 1939	8	1	37	79	17	..	..	1	143	(b) Excludes 2 posts held in absence
3	Permanent and temporary strength in 1940	8	..	40	88	23	..	..	1	160	
4	Permanent and temporary strength in 1941	10	..	44	113	26	5	3	2	201	
5	Permanent and temporary strength in 1942	11	..	64	143	25	6	3	2	252	
6	Permanent and temporary strength in 1943	11	..	120	120	35	4	7	1	298	
7	Permanent and temporary strength in 1944	16	9	130	213	63	5	11	3	468	
8	Permanent and temporary strength in 1945	19	15	184	238	60	5	12	2	536	
9	Permanent and temporary strength on 30th September 1946.	21	17	200	259	64	9	13	4	587	
10	Permanent and temporary strength on July, 1947.	20	17	200	247	71	9	15	4	588	
11	Permanent and temporary strength on 23rd September 1948.	16	20	174	179	64	9	7	4	473	



**APPENDIX XXXI**  
**MINISTRY OF RAILWAYS**  
**(RAILWAY BOARD)**

*New Delhi, the 28th October, 1948*

**RESOLUTION**

No. E. (R) 48GR2 (43).—In pursuance of the undertaking given by the Hon'ble Minister for Railways during the Budget Session of the Indian Parliament this year, the Government of India appointed a Committee, designated the Railway Grainshops Enquiry Committee, of which Shri Mohan Lal Saksena was the Chairman and Shri K. Santhanam and Shri Khandhubhai Kesanji Desai were members, to examine the existing structure of the Railway Grainshops Organisation, the systems of procurement, stocking and distribution and the admissibility of the Grainshop concessions to various categories of staff. The Committee was also asked to suggest any modification in the present system which, while retaining the benefit of the existing scheme, would keep the cost within the limits that the Railways can afford.

2. The Report of the Committee, which has been under the consideration of the Government, contains the following main recommendations:—

- (i) Each individual railway employee should be permitted to opt for the entire dearness allowance in cash as payable to other Central Government employees or for the continuance of the present cash dearness allowance in accordance with Railway Rules combined with the grainshop concession in the revised form as below. Such option should, however, be exercised *within two months of the acceptance of the Report by the Government* and should be final and irrevocable if it is in favour of the full cash dearness allowance. On the E. P. Railway, however, all grainshops are to be closed forthwith.
- (ii) A single lump sum payment on the following scale should be given to those workers drawing a basic pay of Rs. 50 p.m. or less who opt for the full cash dearness allowance if option is exercised by them within the stipulated period of two months as referred to in item (i) above:—

X Area (Kanpur, Bombay and Calcutta) Rs. 120.

A Area (Towns with a population of over 2 lakhs 50 thousand each). Rs. 90.

B Area (Towns with a population of 50,000 or more but less than 2,50,000) Rs. 60.

C Area (All other localities) Rs. 30.

- (iii) That the Grainshops should be retained for those who do not exercise the option as a temporary expedient but should be restricted to the supply of five essential articles, namely, cereals, pulses, cooking oils, salt and matches.
- (iv) Except in areas where there is statutory rationing, Railway workers should be free to take their entire cereal ration in wheat or rice of medium quality, the scale of ration for every worker being increased from 12 ozs. to 16 ozs. per day which is the existing standard ration for a heavy manual worker. The scale of ration for other members of the worker's family, however, should remain at 12 ozs. per day as at present.
- (v) The selling prices of the commodities should be uniform all over India and should be as follows:—

	Ra.	a.	p.	
(a) Cereals—				
Wheat & Rice	0	2	6	per seer.
(b) Pulses.	0	4	0	per seer.
(c) Cooking oils.	0	8	0	per seer.
(d) Salt	0	1	0	per seer.
(e) Matches.	0	0	6	per box.

- (vi) That the sale of commodities at concessional rates should be confined to Railway staff drawing a basic pay of less than Rs. 250 and grainshops should discontinue the practice of supplying commodities to other staff at non-concessional rates. Casual labour should be paid at market rates and all new recruits to railway service should be paid their dearness allowance entirely in cash at the scale prescribed for other Central Government employees and should be excluded from the privilege of the grainshop concessions.
- (vii) Procurement of wheat and rice instead of being made by the railways themselves in the open market should be undertaken by the Food Ministry of the Government of India while the arrangement for the supply of matches should be made by the Railway Board direct from match factories to the Railways. The procurement of pulses, cooking oils and salt should be through open tenders called by Joint Purchasing Committees of Railways consisting of Grainshop Officers, Accounts Officers and two representatives of Labour Unions.
- (viii) Staff participation in grainshop management should be secured by the setting up of Committees attached to each grainshop consisting mainly of representatives of Railway workers.

(ix) The setting up of Co-operative Stores by Railway workers should be encouraged.

8. The Government of India having considered the recommendations of the Committee, particularly in relation to the present policy to check inflation and to re-introduce controls, have decided to accept them subject to the following modifications:—

- (a) That the quantity of the cereal ration shall be in conformity with Provincial Rationing Rules, but the difference between the Quantity of 16 ozs. per day for the worker and 12 ozs. per day for each adult member of his family and the quantities allowed by the rules shall be made up by an addition in the pulse ration equal to half this difference.
- (b) That the Grainshops shall be continued on the E. P. Railway also on the same terms as on other railways and the staff of the E. P. Railway be permitted to exercise individual option in favour of the entire dearness allowance in each or for the continuance of relief in cash and kind in the same way as employees on other Indian Government Railways.
- (c) That the decision of Government regarding the recommendation in respect of the setting up of Co-operative Stores by Railway employees be deferred pending its further examination.

4. The last date for exercise of individual option by Railway employees shall be 31st December, 1948, and the resolution shall come into full operation on 1st January 1949.

5. Government desire to express their thanks to the Chairman and Members of the Committee for the time spent and trouble taken in investigating the complicated working of the Railway Grainshops and in formulating their valuable proposals.

Ordered that this Resolution be communicated to all Indian Government Railways the Director, Railway Clearing Accounts Office, the Deputy Chief Controller of Standardization, Central Standards Office for Railways, all Ministries of the Government of India, the Cabinet Secretariat, the Chief Labour Commissioner, Ministry of Labour, Government of India and all Provincial and State Governments.

Ordered also that the resolution be published in the Gazette of India, Part I.

Sd. S. S. RAMASUBBAN,

Secretary, Railway Board.

















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